

COMMERCIAL CAR JOURNAL

AUGUST 1961

CCJ

THE MAGAZINE OF FLEET MANAGEMENT

A CHILTON PUBLICATION

1961 Construction
Equipment Engine
Service Specifications
follows page 106

HIGHWAY TAXES

**ARE THE PROBLEMS
SOLVED?**

PAGE 88

PLUS

VEHICLE COSTS 92

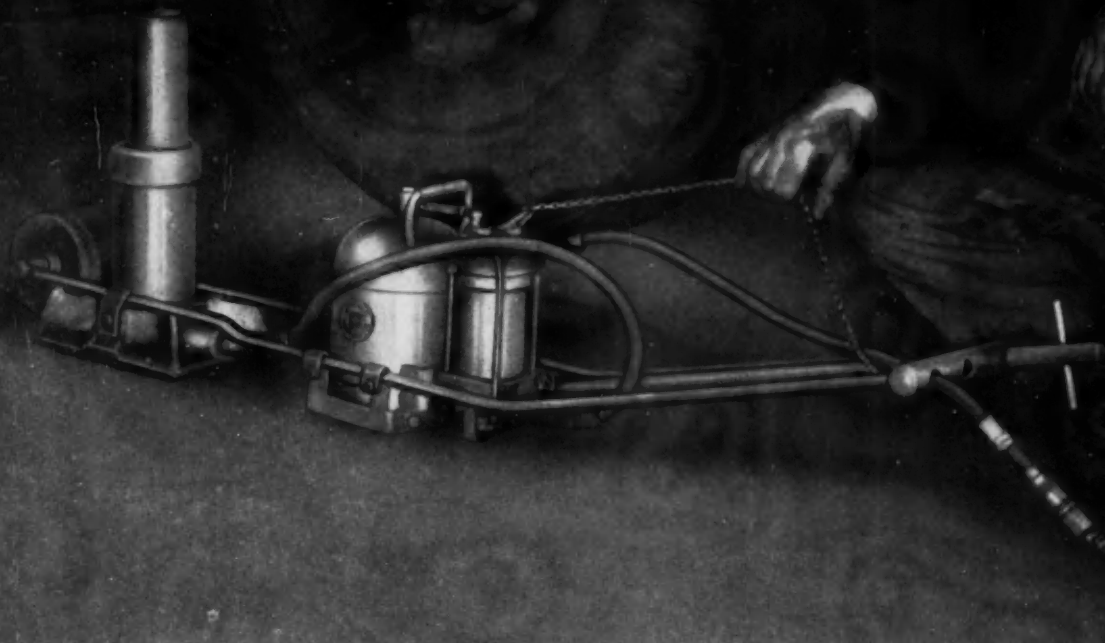
SEAT BELTS 95

BUS SHOP HINTS 98

TRUCK SCALE PM 104

USED OIL 106

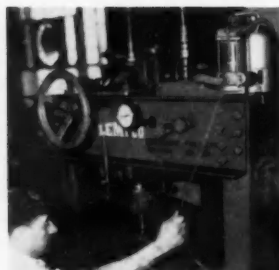
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THIS MONTH'S FEATURES

HIGHWAY TAXES

88

Attention now turns to the states. Where will dollars they need for their part of highway program come from? Your fleet's pocketbook?

VEHICLE COSTS

92

Mechanized accounting's speed makes "average" vehicle costs old-fashioned. Here's how Consolidated Edison gets costs for each vehicle

SEAT BELTS

95

"My next car will have seat belts," was Feature Editor Jim Hamilton's reaction after he contacted fleets using them. Here are the reasons why

BUS SHOP HINTS

98

Key words in this 6-page photo feature are portability, availability, accessibility and cleanliness—as used with success by this bus fleet

TRUCK SCALE PM

104

Here's a fleet manager's guide on getting the most from truck scales with special emphasis on PM for longest, accurate service

LOW COST SHOP HEAT

106

Adley's base shop drains a lot of engine oil. It's also big, uses lots of oil for heating. Here's how supply and demand are mixed to cut costs



WHAT'S NEW

TRUCKS 120

Diesel-powered multi-stops — train-operable straight trucks

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An airport limousine—a highway patrol police car

BODIES 122

Aluminum van bodies and kits—a new multi-stop aluminum unit

TRAILERS 124

From Wilson, Lyncoach, American, Pike and Fruehauf

CARGO HANDLING 128

Including LeTourneau's 30-ton, diesel-electric lift truck

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Featuring new springs with only 1, 2, or 3 leaves, even for maximums

SHOP EQUIPMENT 146

With details on Gulf's new PM plan and service for fleets

PUBLICATIONS 206

Carefully selected to bring you the most significant and useable

AUGUST 1961

VOL. 101 NO. 6



"Well, it's
one way to
cut fuel
taxes!"

KAPUTI LINES has many novel solutions for most fleet problems. They're just not practical, that's all.

In researching the timely highway report beginning on page 88, one suggested solution to highway finance problems sounded like it might be a "Kaputi." It goes like this:

Better highways will save you more than the dollar you spend for them.

In sum, this may be true. But how about inside your fleet? Are better highways cutting operating costs . . . or saving time?

You'd better get the facts on this one when it comes to your fleet. As you'll see in the article, demands for highway money FROM USERS may be just beginning.

CCJ's MOBILE EDITORIAL OFFICE stopped by the side of the road last month for a quick chat with the driver of the Dorsey "tax" rig (June, page 29) as it entered Pennsylvania. During its 3-month tour, the Dorsey public relations promotion for the trucking industry visited 40 states, was seen by numerous influential people.



COMMERCIAL CAR JOURNAL, August, 1961

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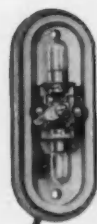
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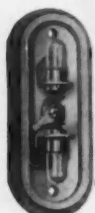
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Commercial Car Journal, one of the publications owned by the Chilton Company, is published monthly at Chestnut & 56th Sts., Philadelphia 39, Pa. Subscription price: United States and Possessions, \$3.00 per year; all other countries \$15.00 per year. Single copies are 50¢ except April and November issues which are \$1.00 each. Accepted as controlled circulation publication at Philadelphia, Pa.



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COMMERCIAL CAR JOURNAL, August, 1961

Diesel units show greatest gain

Vehicle Type	Registered in 1956 ¹	BPR	Per
		Estimate for 1964 ²	Cent Change
Single-Unit Trucks			
Gasoline*	10,060,139	12,494,245	+24.2
Diesel	15,951	20,074	+25.8
Total	10,076,090	12,514,319	+24.2

Combinations with Semi-Trailers

Gasoline*	466,282	637,696	+36.8
Diesel	69,072	108,218	+56.7
Total	535,354	745,914	+39.3

Combinations with Full Trailers

Gasoline*	53,788	54,468	+1.3
Diesel	11,953	17,821	+49.1
Total	65,741	72,289	+10.0

Combinations with Semi- & Full Trailers

Gasoline*	10,497	16,068	+53.1
Diesel	6,289	8,999	+43.1
Total	16,786	25,067	+49.3

Total, All Combinations

Gasoline*	531,567	708,232	+33.2
Diesel	87,314	135,038	+54.7
Total	618,881	843,270	+36.3

Total, All Single-Unit Trucks & Combinations

Gasoline*	10,591,706	13,202,477	+24.6
Diesel	103,265	155,112	+50.2
Total	10,694,971	13,357,589	+24.9

Source: Bureau of Public Roads.

¹ Totals for 1956 include Federal civilian vehicles. Military vehicles are excluded.

² Estimates for 1964 do not include Federal civilian or military vehicles. Breakouts by type of fuel are not available.

* Includes LP gas.

Profiles of 1964



A CCJ 50th Anniversary Year feature

Gasoline Will Be Leading Fuel But Watch for Diesel Growth

DON'T LOOK FOR any radical changes in fleet fuels in the years immediately ahead. Gasoline, LP gas and diesel will still be virtually the only vehicle fuels in the foreseeable future.

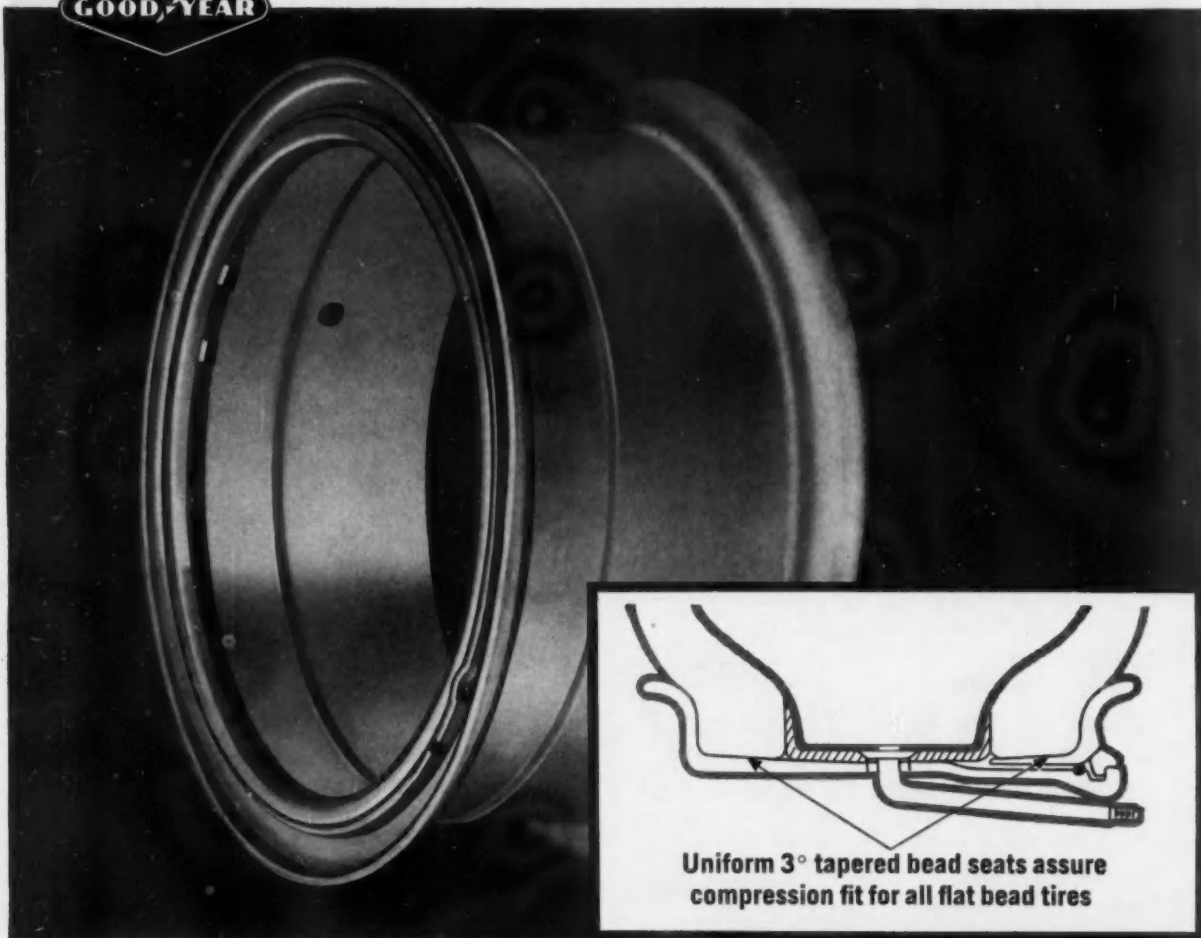
Forecasts by the Bureau of Public Roads for 1964 show that in most classifications gasoline will still reign supreme. The rate of increase is tied pretty closely to the overall growth of vehicles. Note, however, that gasoline (and including LP gas) shows a very small increase in certain of the larger rigs. Diesel power picks up where gasoline doesn't—and grows even more in the Combination Vehicle categories which are predicted to have the largest percentage growth by 1964 (see July, page 5).

There are certain engineering and legislative factors which may or may not throw these predictions off—particularly in the Single Unit Truck class. In the last two years, many makers have introduced new engines and trucks in the under 20,000 lb GVW class which are diesel-powered. Also, Congress did not increase the diesel fuel tax from 4¢ to 7¢ per gallon as President Kennedy requested. These factors together point toward growth of diesels in small trucks.

What about gas turbines, the fuel cell, nuclear power? So far, these are mostly on the drawing boards. The closest one to being practical is the turbine. A few are in use now on a limited scale, but so far the diesel outshines up to 1000 hp. If horsepower approach this point for on- or off-highway vehicles, the turbine may catch on. Engineering breakthroughs may make the turbine feasible in lower horsepower, too. Hence, a new fuel category: Kerosene and jet fuel.

Next month: A study of GVW and GCW by vehicle type. In late September: COMMERCIAL CAR JOURNAL'S 50th Anniversary Special—*The Golden Years of Highway Transportation*.

GOOD YEAR



Exclusive Job-Master rim design minimizes bead chafing

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GOOD YEAR

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How to get more for your dollar

AT LONG LAST there are definite signs of an upturn in the economy. Car and truck sales are both up. For-hire carriers report more freight on their docks. Even in that miserable first quarter, four of the top ten made a better profit than a year ago and all but two made money (July, page 166). Many private truck operators are busy with modest booms within the hundreds of industries they serve.

Fleetmen everywhere find it hard to hide the glint in their eyes that says: "I need some new trucks." In that frame of reference, consider these three items from widely different sources.

1. The magazine *Newsweek* has just released results of a survey which asked new truck buyers what they wanted most from truck manufacturers. Largest single group—18.5 per cent—said the one big improvement they would like to see is *quality of construction*. They went on to name specifics: Better springs, reinforced door structures, improved economy, better brakes, more care in manufacturing. Only 3 per cent asked for lower price!

2. COMMERCIAL CAR JOURNAL's Technical Editor Ed Shea made a whirlwind visit to Germany. There he got a first hand look at the sprawling Volkswagen plants. It didn't take long to learn that "Volksy's" claim of quality workmanship is well supported by sound production techniques. He found that a basic principle can be summed up in these words: "Quality control begins with poor workmanship." Put bluntly it means . . . You wouldn't need the control if you didn't have poor workmen. More

realistically, it means . . . Good quality control can make up for the human failures.

3. A discussion appeared on this page last fall under the heading "Quality vs. Price." I cited the growing number of smart fleetmen who had learned that it often pays to pay more for a quality item . . . provided the investment can be returned in lower cost of operation. There was special emphasis on extra-cost heavy-duty options available from all makers.

Now mix all three items and you can draw some interesting parallels. The *Newsweek* survey confirms—with figures—the very thing that wise fleetmen have been preaching for years: New truck buyers put quality of construction ahead of price . . . by more than three to one.

The reference to Volkswagen is not intended to compare European standards with American techniques. But no one can deny the world-wide reputation which this company has built for quality workmanship. And they have done it at price completely comparable with their competition (all the other low-priced imports). It is indeed a challenge to American builders.

But every one of the American builders can build a mighty good truck if you—the buyer—will buy them. Heavy-duty options may cost \$500 more on a light truck, several thousand more on a big one. But the odds are heavily stacked that you will get all those dollars back—plus—in longer life and less maintenance.

So when that new-truck glint in your eye turns into a purchase order, be sure it specifies quality.

Bart Rawson
Editor

ANOTHER BLUE STREAK ADVENTURE WITH

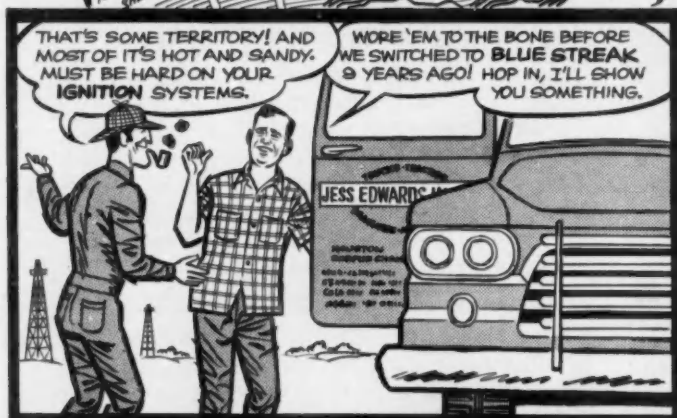
SHERLOCK McKANNICK

THE IGNITION
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CCJ FLEET MANAGEMENT REPORT

What's your maintenance problem?

Ever sit down on one of *those days* (usually Mondays, of course) and wonder, "How-the-heck do so many shop problems pop up at once?" Well, brother, join the crowd! We've all got those problems. The boys with the 2000-unit fleets have 'em. So do the guys with 10 trucks.

But you can get help—easily. First, what is your worst maintenance headache at the moment? There's one place the experts will gather to help other fleetmen in the same spot you're in. That's at the **Fleet Maintenance Exposition in New York, Oct. 23-26.**

POWER TRAIN COMPONENTS

Men from GMC Truck and Coach, Rockwell-Standard, Eaton and Dana will talk power train components. Then they'll answer your specific questions.

ELECTRICAL COMPONENTS

The *new* electrical components of vehicles are the topic at hand. Representatives of Du Pont, Durham, Delco Remy and Leece-Neville will supply the answers—if you bring up the questions.

BUS ENGINES

Richard N. Atwell of New York City's Transit Authority chairs one on bus engines. His panelists are from GMC's Detroit Diesel, and Cummins. You'll get a top-notch maintenance program thrown at you (take notes).

NEW DIESELS

Add to the list of today's problems PM for new truck diesels. Then see what the men from Detroit Diesel, International and Cummins come up with. They'll outline a strong PM program for you, at least.

SERVICE BRAKES, RETARDERS

A five-man team will hatch over service brakes and retarders, tell you how best to keep them working. Panel comes from AMA, Auto Specialties, Allison, Bendix-Westinghouse and Dodge.

FREE-TALKING SESSIONS

Workshop seminars are "closed" sessions so fleetmen can get down to solving common problems. How many of these topics apply to your fleet?—"Recruiting and Training Mechanics," "Parts Stocking and Control," "Meeting Safety Requirements," "Tire Problems," "Mechanics and Instruments," "What Higher Speeds Mean to Maintenance," "Instrumentation for Fleet Maintenance," and "Refrigeration." Expect some pretty frank talk from other fleetmen. They're no-holds-barred sessions.

CIRCLE 326

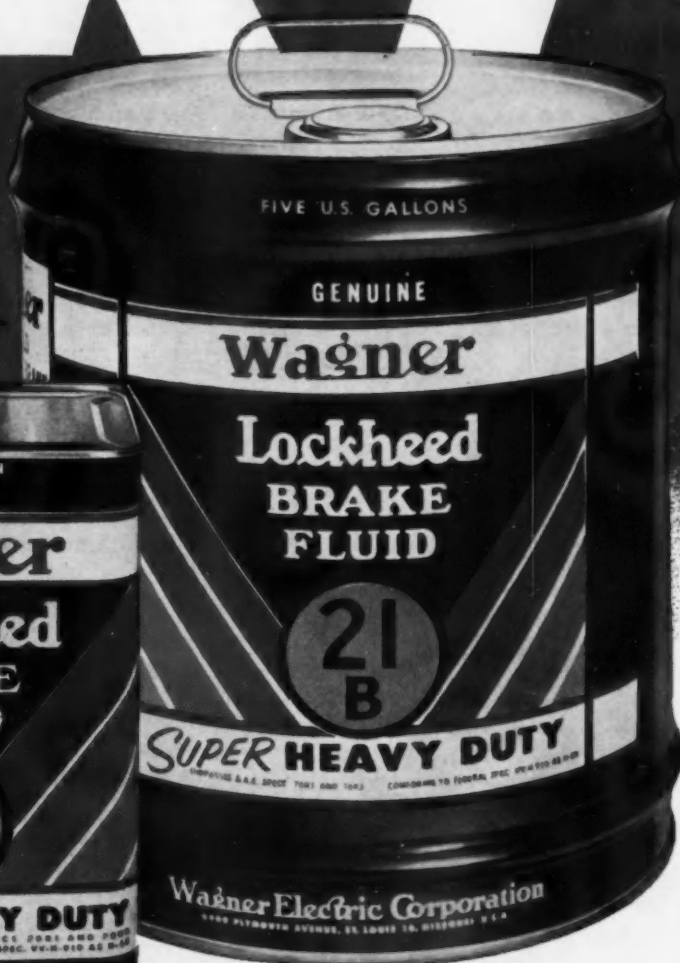
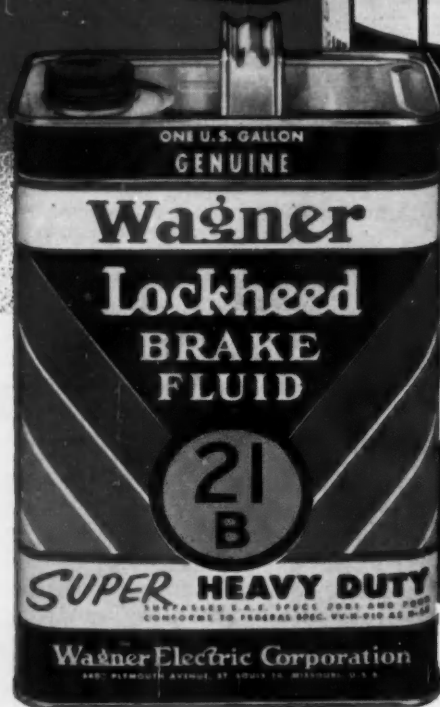
Already planning to attend? Then do you have the program, information and tickets necessary for a trouble-free trip to the Exposition? If you still haven't made up your mind, you can take a look at the complete program, run down the credentials of the speakers, see how easy the Exposition management has made your attendance. **Just circle number 326 on the reply card (inside back cover).** We'll see that you get a complete packet on the show, including ticket applications.

PRODUCTION

In thousands of units, except bus sales are in actual numbers	New Truck Registrations		Truck Factory Sales—Domestic		Trailer and Trailer Chassis Shipments		Bus Factory Sales—Domestic		Truck and Bus Tires			
	May		May		May		May		Replacement Shipments		Original Equip. Shipments	
	May	5 Months	May	5 Months	May	5 Months	May	5 Months	May	5 Months	May	5 Months
1961	85.7	355.4	85.2	377.5	4.6	20.0	372	1525	772.0	3453.3	346.3	1510.5
1960	93.5	406.4	95.0	452.9	6.4	29.5	235	939	738.4	3081.2	442.1	2019.4

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Corporation
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Parts for other
makes of vehicles

Whatever car or truck you service—whatever your replacement requirements may be—MoPar has the *complete quality answer—the right part at the right place at the right time!*

MoPar parts fit right, work right, install quickly, save labor time, keep your jobs rolling on schedule.

Whether you use new parts or remanufactured parts, you can install with confidence . . . knowing that MoPar quality backs your reputation for fine service.

MoPar is ready to give fast, efficient service and delivery on any part—from cotter pins to 8-cylinder engines—on any size orders—from the smallest to the largest.

Smart service operators know that it pays to install *quality* parts as replacements for original equipment. Call your MoPar Wholesaler or Chrysler Motors Corporation Dealer.

**For quality parts and accessories
—you name it... MoPar's got it!**



MoPar Parts and Accessories, Chrysler Motors Corporation, Detroit 31, Michigan

CCJ FLEET MANAGEMENT REPORT

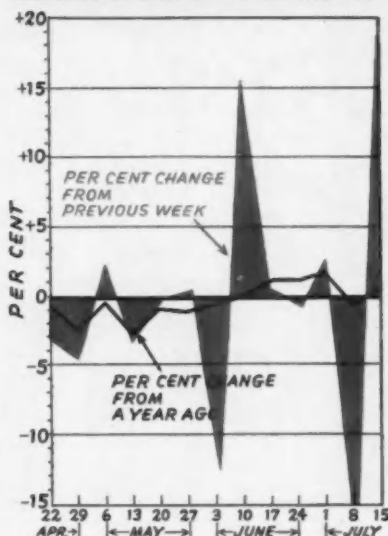
Rail traffic still down

Rail revenue freight and passenger traffic were down as much as 13 per cent from last year's figures during the first quarter.

Freight tonnage was off 13 per cent, ton-miles were down 10.7 per cent, number of passengers decreased 5.9 per cent and passenger-miles were off 7.1 per cent.

Number of employees required to handle this smaller business likewise was down. Decreases in number of employees at mid-month for Class I line-haul railroads ranged from 9.6 per cent in January to 11.1 per cent in May.

TRUCK TONNAGE



Just flag down a driver . . .

Spector Freight System has a new wrinkle for its 2000 shareholders:

Company now urges them to call on company drivers for assistance if they have auto trouble on the road. Spector has already issued identification cards to its stockholders. The cards certify the shareholder is a "partner-member" in the company.

Cost squeeze forces common carriers to up rates, may drive goods to rails

Intercity carriers will jack up their freight rates by about five per cent by the end of the year. It could divert much truck traffic to rails.

Truck men say they realize it could be a dangerous policy, but they're forced to the move by rising costs.

It would also mean that in little more than a year truck rates had risen by about 10 per cent, while rails had been lowering rates in certain areas to whisk business away from the highway carriers.

Specifically, here's what's making the truckers feel they're in a cost vise:

- **Labor**—The cost of workers now takes roughly 55 per cent of all trucking expenses. That compares with 48 per cent just 10 years ago. And it has not stopped

growing—earlier in 1961 the Teamsters won a contract which will boost all except Western drivers' wages by about 43¢ per hour by February 1963. (Western contract is yet to be signed.)

- **Taxes**—Here's an item that promises to continue to grow. (For that picture see "Highway Taxes—Are the Problems Solved," page 88.) Next source of higher truck taxes: state legislatures.

- **Rising equipment costs**—This one also is likely to continue to rise. Past trends seem unlikely to be reversed in the equipment field.

Fleetmen say, frankly, their fleets cannot absorb any more of the costs. Either they raise rates, or run at a loss. A substantial number have been doing just that for the past couple of years.

"Reserve" for old-time truckers

Trucking Industry Mobilization Committee is looking for retired trucking industry personnel for possible service to government or industry in case of a national emergency.

Five TIMC units have been organized. They're being formed through cooperation of Military Traffic Management Agency and ATA.

Persons who wish to be included in such a roster should contact their state trucking association for more information.

Teamsters give Hoffa new power

Teamsters union delegates last month gave James Hoffa power to turn his union into a new federation, one which could rival the AFL-CIO.

Hoffa told the delegates, however, he did not want to use the

power. He promised not to make the Teamsters into a "new labor federation," but "an international union" as it is now.

In constitutional amendments, here's what the delegates handed their leadership:

- It gave the 15-man executive board, which Mr. Hoffa heads, "full power and exclusive authority" to merge or affiliate with other international unions "for the purpose of creating or participating in any federation of labor organizations."

- It broadened the jurisdiction of the union. Up till now it was technically limited to trucking and related occupations. In the future it will include "all workmen engaged in industry." This would give the union the right to organize workers who normally would come under the AFL-CIO.

- It limited the rights of local unions to stay out of widespread (TURN TO PAGE 176, PLEASE)

Nylon is fine
for stretch leotards
but not for
no-stretch tires!

TYREX[®] RAYON TIRES ARE AFFECTED LESS BY HEAT STRETCH
THAN NYLON! THEY ACTUALLY GIVE 33% LESS GROWTH THAN NYLON...
MORE HEAVY DUTY MILEAGE... EASIER MATCHING ON DUAL MOUNTS!

It's easy to get greater tread mileage with TYREX rayon tires. Unlike nylon, TYREX rayon tires never develop serious "heat-stretch" (an important factor in tire wear) when high speed builds up heat. Costs stay low, profits stay up. Here's how TYREX rayon cord outperforms nylon!

40.2% MORE MILES—In continuing Texas fleet tests, TYREX rayon tires have left nylon (in the same general level range) far behind in tread wear.

LESS GROOVE CRACKING—Less growth means less groove cracking—a major cause of separation and loss of carcasses for recapping.

TYREX INC., Empire State Building, New York 1, N. Y. TYREX (Reg. U.S. Pat. Off.) is a collective trademark of TYREX Inc. for rayon tire yarn and cord.

*"Don't let
nylon stretch
shrink your
profits!"*



KEEPS MORE STRENGTH as tire heat soars.

Make sure you take advantage of these big TYREX rayon cord pluses. Many of today's biggest and most modern fleets are. It can mean lower tire costs, greater safety, and reduced downtime for you, too.

TYREX [®]rayon
TIRE CORD
AVOIDS NYLON STRETCH!

TYREX rayon tire yarn and cord is also produced and available in Canada.

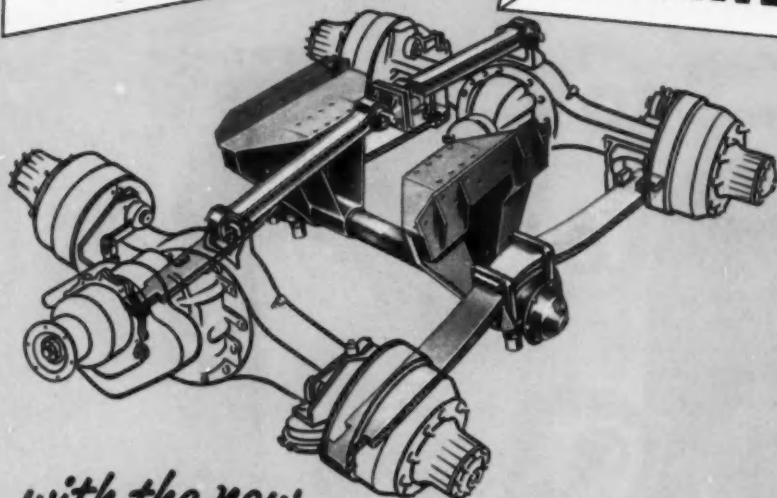


RAY SMITH ASSOCIATED CO.'S NOW USING TYREX RAYON TIRES. The fleet on which the above mileage tests are being made includes 383 tractors, 505 trailers that haul cement. Amazing test results have more fleets changing!

COMBINE

PAYLOADABILITY

with **RIDEABILITY**



and get

- UP TO 434 LBS.
MORE PAYLOAD
- A SMOOTHER RIDE
LOADED OR EMPTY
- LESS WEAR AND
TEAR ON TRUCK
AND CARGO

with the new

ROCKWELL-STANDARD TANDEM SUSPENSION

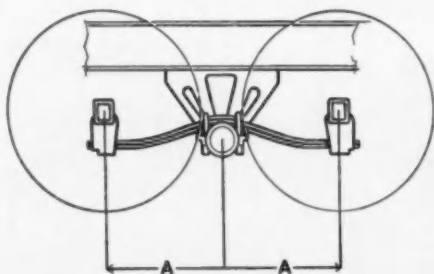
COMPLETELY NEW
IN DESIGN...

EXCLUSIVE "TAPER-LEAF" SPRINGS
MEAN LESS WEIGHT—
MORE PAYLOAD



It isn't the amount of spring steel but the way that it is used that gives strength to springs. With only *two* long tapered leaves in each spring Rockwell-Standard can achieve the same strength and load carrying capacity that standard suspensions can carry with multi-leaves...and at less than half the weight.

Optional aluminum frame support brackets and torque rods cut suspension weights by almost 25%.



Another Product of ..

BALANCED "CRADLE-RIDE" FOR SMOOTHER GOING—LOADED OR EMPTY

Balanced design with long resilient springs assures an easy buoyant ride and reduces vehicle hopping, pitching and swaying. Because of greatly reduced inter-leaf friction even slight road imperfections are absorbed. This shock absorbing action keeps vehicles tight, minimizes maintenance, reduces cargo damage and makes handling easier on or off the road.

ROCKWELL-STANDARD
CORPORATION



Transmission and Axle Division, Detroit 32, Michigan

CCJ FLEET MANAGEMENT REPORT

Shortages of new cars

Industry spokesmen tell CCJ to expect shortages in new cars beginning this month. All industry signs point to short supply. Reason: Dealers have grown cautious after last year's overstocking debacle (at the start of a recession).

Furthermore, factories began steeling against a possible auto industry strike by stopping production of 1961 models earlier this year to build up a backlog of 1962 models.

"Shortages," however, may simply mean the clean-up period this year will be shorter. It may not stretch well into the new model year as it often has in the past. Chrysler Corp. Vice President T. F. Morrow says it may be the best cleanup since the Korean War, will "lay the groundwork for excellent automotive sales in the fourth quarter."

Higher tire tax forces car price hike

Detroit saw its first mid-season boost in car prices in several years this summer. Reason was the increase in the Federal excise tax on tires. Boost wasn't much—about \$2 per car by Ford, Chrysler and American Motors. General Motors reportedly is absorbing the tax hike, may make adjustments on 1962 models.

Bustle in Detroit over the '62's

Detroit has a lot of extras in the works this fall for fleet operators. Though the exteriors of many autos will not be radically altered, changes underneath and inside—plus some new models—can make it an interesting year:

- The new intermediate size cars should come close to satisfying fleetmen. They're not full-size cars—but they're close. Some factory men have told CCJ they expect the new-size cars to become the basic fleet car. "Downgrading" of employees will not be a problem with them. One fleet sales manager says, "They'll fit nicely into all types of fleet operations. They're not too big, and they're not too small. Salesmen, who like a little appearance in a car, will be happy."
- The '62's should be a little more comfortable up front. Factories are increasing room in the front on most models, taking a little away from back seat riders. Transmission humps are still shrinking, accounting for some new room.
- More "squared-off" rooflines are in the works. Besides the big play Ford has made with it, one of the independents has now adopted the look.

What a fleet car costs . . .

A recent study shows it costs about \$1484 to drive a standard-size Ford, Chevrolet or Plymouth an average of 20,000 miles a year.

Of the total, \$784 is for annual fixed charges—depreciation and insurance. Some \$700 goes for gas, oil and maintenance. The survey was based on a study of major corporations which pay their salesmen for using a car in their work. The figures indicate that, of the monthly cost of operation, 44 per cent is for depreciation and only 27 per cent for gasoline. Of course, the cost would differ with other models.

New auto lighting system

Automobile Manufacturers Assn. has announced development of a new safety signal system that increases daytime visibility of vehicle signal lights without making them too bright at night.

It's called a "dual-intensity" system. Daylight brightness of rear turn and stop signals is up-to-four times greater than those used at present. When the headlights are turned on, however, rear signal brightness is lowered to prevent glare to drivers in back. Front turn signal intensity is not changed.

No date for changeover to the system has been set.

- "Compact" already has little meaning. Nobody knows where "compact" leaves off and "standard size" begins. It will be even worse with "intermediate" cars.
- The long-discussed V-6 engine makes its debut this fall in one line. Then, there will be even more of them in 1963. Pontiac is already readying a die-cast-aluminum V-6 for 1963.
- Hood ornaments, which appeared to have gone the way of the dodo, aren't extinct after all. One that looks mighty like Edsel's "gun-sight," pops up on a make that's had a clean hood for years.
- One luxury car is coming out with a unique safety device. Its braking system has a dual-reservoir cylinder—one for front brakes, the other for rear brakes. In case of failure in one cylinder, the other still works. Old stuff on some trucks, it's strictly new for passenger cars.
- Discount rumors American Motors is dropping its Rambler Ambassador series. AMC denies it will be dropped. Will it be shortened, then? AMC won't say whether it keeps its 117-in. wheelbase or not.
- Fleetmen will find definite savings from the trend to longer lubrication periods. For details, see Ed Shea's "At Your Service," page 83.



Double your —drive tire costs down—with the

PROVED:

Wider, flatter tread puts more rubber on the road for smooth, even rolling — longer wear.

PROVED:

Thicker tread (up to 60% deeper than conventional tires) is compounded with super-toughening agents for longest-lived, slowest-wearing rubber produced today.

PROVED:

Wide, scientifically placed grooves vent heat, provide cooler running temperatures, help keep heat build-up to safe minimum.

PROVED:

Hundreds of deep-cut gripping edges guard against slips or spins, provide safer, surer traction at all times.

PROVED:

3-T Process Nylon Cord body fights heat, shock and fatigue — can be recapped again and again.



No newcomer to America's highways is the Hi-Miler Cross-Rib by Goodyear. This is the thoroughly proved veteran of a conservatively estimated billion miles of hauling on all kinds of roads, under all kinds of conditions.

RESULT: Actual report after actual report of the Cross-Rib drastically reducing tire costs by delivering double the drive-wheel mileage—and more—of any conventional truck tire.

This is fact, not clouded claim. This is proved performance, not projected promise. This is what the Cross-Rib can do—and does.

Put yourself miles ahead by buying or specifying the Cross-Rib tire or any of the top-performing Goodyear truck tires. See your Goodyear Dealer or write: Goodyear, Truck Tire Dept., Akron 16, Ohio. Lots of good things come from Goodyear.

M.E.S. CAN SPELL BIG SAVINGS FOR YOU!

The new Goodyear Mileage Engineering Service costs you nothing in fees, extra equipment or man-hours, yet can provide new lows in tire cost-per-mile and capital investment. Basically, M.E.S. is a new plan of tire rotation that lets you get maximum benefit out of Cross-Ribs and other long-wearing Goodyear tires and keeps your trailer tire needs in balance. To put M.E.S. to work for you, just write Goodyear, Truck Tire Dept., Akron 16, Ohio.

TOP TEAM FOR BIG TRUCKS

**HI-MILER
CROSS-RIB**
for drive wheels



**TRACTION
HI-MILER**
for front wheels

GOOD

drive-wheel mileage billion-mile-proved CROSS-RIB



NOT JUST ANOTHER CLAIM, BUT ANOTHER ACTUAL PROOF:

"Drive-wheel Mileage More Than Doubled with Cross-Ribs"

—reports G. E. Paschall of East Texas Motor Freight

"We've been using Cross-Ribs for three years now," continues Mr. Paschall. "And they've been rolling up an average of more than 117,000 miles before being switched to trailer wheels for many more miles of run-out. That's really better than double the average of only 56,000 miles from

previously used standard tread tires, before recap or run-out.

"Naturally, we're interested in tire economy, but safety and on-time arrivals take priority. And that's where the traction and dependability of Cross-Ribs play a big part."



**MORE TONS ARE HAULED ON GOODYEAR
TRUCK TIRES THAN ON ANY OTHER KIND**

Hi-Miler—T.M. The Goodyear Tire & Rubber Company, Akron, Ohio

when the heat's on...



**KEEP YOUR
CARGO COLD**
with ARCTIC TRAVELER

TRUCK & TRAILER MECHANICAL REFRIGERATION

Automatically Holds Down to -20° Inside with Outside Temperature as High as 100°!

- **Greater Cooling Capacity per H.P.**—all electric refrigeration system is most efficient in use today.
- **The Ultimate in Dependability**—hermetically sealed compressor makes Arctic Traveler as dependable as the home freezer.
- **Big Operating Economies**—saves up to 90% of service costs for refrigeration unit... engine generator starts and stops automatically as current is required... saves up to 50% in fuel and engine wear.
- **Fully Automatic Temperature Control**—set it and forget it... no driver responsibility... automatic defrost plus automatic, thermostatically controlled winter heat.
- **Engine Generator Mounts Under Body Floor**—slides out for ready access... distributes weight for bigger payload. Offered for gasoline, LP or Diesel fuels.
- **7 Models Available for Trucks and Trailers of All Sizes.**
- **FULL ONE YEAR WARRANTY**

For Proof Positive of Arctic Traveler's superiority, write for descriptive literature or ask to see our representative.

ARCTIC



TRAVELER

DIVISION OF
AMERICAN MANUFACTURING COMPANY
Montgomery 2, Alabama

CCJ FLEET MANAGEMENT REPORT

Housing bill holds aid for transit

Mass transit will get some needed help from the new \$6.5-billion housing bill signed in June by President Kennedy.

The measure provides \$75-million for urban mass transit programs. Of this, \$50-million will go for emergency loans on a two-thirds matching basis for local transit systems. The other \$25-million will go for grants for mass transportation "demonstration projects."

The \$75-million figure represented a compromise between the original \$150-million provided by the Senate and the absence of any funds in the original House measure.

At the same time, a House banking subcommittee began holding hearings on mass transportation problems. It will try to develop an expanded and more permanent program of Federal aid for Congress to consider next year.

Baltimore buses have own lane

Baltimore's special bus lanes which go "against traffic" on one-way streets are working out well. Traffic and Transit Department officials say the special lanes are probably a permanent part of the city traffic plan.

Special lanes for city buses is not new. But Baltimore's plan for running them against the general flow of traffic on one-way streets, 24 hours day, is very unusual. So far, the only street affected is a two block section of Saratoga St. Bus traffic was diverted from W. Lexington St. to avoid the construction sight of One Charles Center.

Traffic is warned of the "wrong-way" buses by overhead signs and double-line stripes on the street.

Bus ad revenue under study

The captive audience buses can deliver to advertisers has paid off for the bus companies. Bus-card and bus-side advertising are taking an increasingly important place in bus properties' profit pictures.

American Transit Assn., in turn, recently surveyed member companies for more information about advertising practices. What they got was a fairly standardized list of bus-card sizes, a less standardized report of ad sales philosophy.

Roswell F. Thoma (Niagara Frontier Transit, Buffalo, N. Y.), chairman of the ATA Advertising Revenue Committee told members of ATA: "It has been demonstrated . . . by the National Assn. of Transit Advertising . . . that lack of coordination and

cooperation in the handling of transportation advertising has been costing all of us substantial amounts of money over a long period of years. Our Committee . . . is determined to expend every effort to correct this unfortunate condition."

When survey results were tabulated, the Committee recommended that member bus companies:

- Encourage your bus advertising company to hold memberships in ATA and National Assn. of Transportation Advertising.
- Insist he devote his time to selling interior as well as exterior space.
- Encourage him to participate fully in developing national and regional sales, to accept regional and national advertising on a reciprocal basis with other agents.

Full use from 'Charterchief'

Cleveland Transit System is playing up its "Charterchief" luxury bus to the hilt. The bus has already garnered quite a lot of valuable publicity for CTS.

The "Charterchief" is appointed like a fine office, or lounge. During past months many dignitaries have been aboard it. Pleasant change: These dignitaries can attend a meeting while traveling. For instance, the Cleveland Society of Association Executives recently held their meeting firmly ensconced in the plush lounge chairs. At the same time they were traveling from Cleveland's Public Square to the American Society of Metals Building in Novelty, Ohio.

BALTIMORE'S PREVIEW—Radio and TV carried the "public preview" of Baltimore's new Trailways intercity bus terminal when it was opened recently. It stands five stories tall and will handle 160 buses daily. Note bi-level passenger area feature



ENGINEER'S FIELD REPORT



Over-the-road fleet saves three cents per mile with RPM DELO Oil

OK Motor Service Inc. reduced their operating costs for its fleet of 24 highway tractors to only 9½¢ per mile—3 cents per mile less than average for trucking firms in the Chicago area. The reason: RPM DELO Lubricating Oil has extended engine life by 50 to 100% . . . lowered oil consumption and total operating costs.

"We've tried other products," reports Shop Superintendent A. T. Cosentino, "... but maintenance records prove RPM DELO Oil gives outstanding per-

formance at the lowest cost per mile.

"Our fleet now averages better than 350,000 miles between overhauls. The life of fuel injection pumps has increased 500% and oil consumption has been reduced from 5.4 to 2.1 qts. per thousand miles. These results add up to real savings."

This inter-state trucking firm operates in Illinois, Wisconsin, and Indiana on a 24-hour day, six days a week. Their Diamond-T and Mack tractors average 110,000 miles per year.

RPM DELO Oil reduces wear and prolongs engine life because it clings to parts whether the engine is running or idle . . . hot or cold. Piston rings stay free because an anti-oxidant fights gum and lacquer formation and a special detergent keeps parts clean. Other additives prevent corrosion of bearing metal and crankcase foaming.

Why not try RPM DELO Oil? Chances are it can cut your costs, lengthen equipment life. Just call your local representative or write any company listed below:



STANDARD OIL COMPANY OF CALIFORNIA, San Francisco 20 • STANDARD OIL COMPANY OF TEXAS, El Paso
CALIFORNIA OIL COMPANY, Perth Amboy, New Jersey - Denver, Colorado

TRADEMARK "RPM DELO" AND CHEVRON DESIGN REG. U.S. PAT. OFF.



Which driver view pays off for you?

Here you literally see how to add driver efficiency and productivity to truck driving.

In a truck cab with a standard seat (left), everything vibrates—the truck, the seat, the driver. In fact, vibration and road shock pass through the seat into the driver's body at amplifying rates. This causes fatigue and reduces coordination, alertness—even disturbs vision. Comprehensive road and laboratory tests prove this.

The view on the right illustrates the Viking T-BAR* Suspension Seat ride. The truck still vibrates and bounces, but the driver remains steady and relaxed. Jolts, jars and road shock do not bother him. He remains untired, alert. Vision stays sharp and clear.

What's the payoff? You gain more efficient, more productive drivers—lower operating costs, better profits.

It pays to equip your new and older trucks with Viking T-BAR Seats. Available from your truck dealer or parts distributor.



NEW VIKING T-BAR SUSPENSION SEAT

New torsion bar suspension system, built-in shock absorber and contour cushions remove fatigue from truck driving—boost driver morale, safety, health and productivity. On 500-mile run, two drivers formerly changed driving three times—now on Viking T-BAR Seat, they say they need not change at all!

*Trade-Mark

BOSTROM CORPORATION
133 West Oregon Street • Milwaukee 4, Wisconsin

**SOARING in
POPULARITY**



BALDWIN



FILTERS

--with the Heart to CHALLENGE ALL OTHERS!

It takes real heart to be a winner—and BALDWIN has the heart. Pull one apart and see for yourself . . . compare the BALDWIN line with any others at any price. BALDWIN filters are best . . . highest quality materials, best performance.

Automatic wound cotton, Microlite pleated plastic impregnated paper, Vac-Cel diesel media.

GUARANTEED TO KEEP OIL VISIBLY AND CHEMICALLY CLEAN!

OIL • FUEL • AIR

For every application—cars, trucks, buses, tractors, industrial and marine engines.

Road test proved . . . endorsed and approved by prominent fleets throughout North America, including Greyhound and more than 75 major transit companies, plus hundreds of leading motor carriers and national contractors.

Join these hundreds of fleets who profit from the outstanding performance of BALDWIN FILTERS.

Every filter element is fully guaranteed to exceed original equipment specifications *BY FAR*.

BALDWIN FILTERS keep oil REALLY CLEAN.

Write, wire or phone for catalog and name of distributor in your area.



J. A. BALDWIN *Manufacturing Co.*

Kearney, Nebraska

Producers of the World's Finest Filters Since 1936

CCJ FLEET MANAGEMENT REPORT

TTMA highlights . . .

By Jim Winsor and Ed Shea

These were significant discussions at Truck Trailer Manufacturers Assn. summer meeting last month:

Reefer air movement—Paul Achenbach reported on air distribution studies recently completed by the Department of Agriculture and the National Bureau of Standards. In a report called "tentative," these were his conclusions: Without floor racks, lower cargo remains above zero throughout cooling period. With floor racks, though, cargo stays below zero regardless of airspace at sides or whether air chute is used overhead. He concludes that with proper circulation under the cargo, you can get by with one in. of airspace on each side of the load, two at rear. Air chutes halfway to rear of trailer help cool rear part of load, make no significant temperature difference.

Boggs Bill—Fleetman hailed this piece of legislation. It prevents a "gag" on businessmen by asserting that dues paid industry associations are non-taxable. That's present state of the law. But, this bill would keep IRS from altering it by excluding associations (as pure lobbies). ATA General Manager Ray Atherton called for all fleetmen to push for passage on the local level.

Trailer support interchangeability—TTMA approved final report on standardization of landing gear equipment. Only change: Through-bolt circle is increased from 1¾ to 2 in.

Brake horsepower program—AMA's rating program (June, page 117) is now with SAE Brake Committee. It's slated for a final report next month in Milwaukee.

Plastic-coated wire—Melting of plastic-coated wire is a problem on tractors and trucks—not on trailers—TTMA delegates were told. Keith Tantlinger of Fruehauf says in many cases the pur-

chasing agent, rather than the engineer, is specifying the wire used. The trailer makers did not condemn plastic-coated wire. They did decide, however, that a safety factor should be built in. Trailer makers, they said, should specify wire which meets load for that circuit, plus a safety factor of two. A formal proposal to that effect is being made.

AASHO size, weight limits

John King of Automobile Manufacturers Assn. told TTMA delegates last month that the trucking industry has recommended liberalized size and weight limits to AASHO.

Specific details of the recommendations were not released.

But, besides considerably liberalized sizes and weights, the industry has also suggested a more liberal and workable bridge formula.

The recommended limits are the result of several months' intensive work by the AMA, TTMA, Private Truck Council, Rubber Manufacturers Assn., NHUC, and National Assn. of Motor Bus Owners.

King told CCJ: "Whether the proposal will be revised later, we can't say at this time. We don't think the proposal will be rejected in total, although some changes may be suggested."

(For details on the effect the AASHO study and recommendations will have on the national highway program, see "Highway Taxes—Are the Problems Solved?," page 88.)

Sorry, Mr. Auchincloss

CCJ last month misquoted ATA's Tom Auchincloss, concerning policing of the AFDOUS refrigeration code.

Mr. Auchincloss' talk before the Regular Common Carrier Conference contained no reference to the ability of states to enforce the Code.

A handy checklist

Here, briefly, are recent and significant developments that may affect your fleet:

- **Two-ply tires**—Firestone will produce two-ply tires for several 1962 standard-size autos. They'll have four-ply ratings, carry standard road hazard guarantees.

- **Single-leaf springs**—Two car makers reportedly will drop multi-leaf springs on some models in favor of a solid steel bar. Reports say it will give smoother ride, lower cost. (See "What's New in Vehicle Accessories," page 133.)

- **Ceramic-coated mufflers**—American Motors is presently only company offering them, but another is considering ceramic-coated mufflers for all its models. Still others are expected to follow suit later.

- **Cargo handling**—Douglas Aircraft has licensed Clark Equipment Co. to make and market a cargo handling system that floats materials on air. Called "Glide" (TURN TO PAGE 160, PLEASE)

AIR MOUNTED—Firestone air bellows support fifth wheel on this English tractor. Tractor's maker, Cranes (Dereham) Ltd., hinges front of fifth wheel to frame so it can be raised or lowered for coupling with trailers sitting higher or lower than normal





American's Al Thomas checks lubrication schedules with maintenance superintendent Harry Stewart. American products permitted up to 50% increase in the service periods for Bos Trucks.



BY A. J. "AL" THOMAS

About the Author. Al Thomas is one of American Oil's Commercial Representatives operating out of Des Moines, Iowa. A graduate of Iowa State University, with a degree in mechanical engineering, he has served customers since 1953. He completed the Company's Sales Engineering School (where he also instructed) in 1955.

* * *

Bos Lines, Inc., Marshalltown, Iowa, operates more than sixty over-the-road units throughout Iowa, Illinois, Missouri, Minnesota and Nebraska. For this service American Oil products and services rate tops with Bos Lines—and this is why:

Bos Lines recently eliminated some of its terminal offices and shops, consolidating them into an ultra-modern new headquarters in Marshalltown.

This meant that the periods between truck servings had to be lengthened, which could lead to great savings on maintenance. Bos management knew from experience that the oils and greases they were using couldn't stand up for the longer periods. And that's where AMERICAN came in.

Working with Bos Lines' maintenance and management people, we developed a new lubrication plan. Bos Lines liked the plan and selected American



***TRUCKER EXTENDS LUBE PERIODS UP TO 50%
— ENDS TERMINAL FUELING OPERATIONS —
with AMERICAN products and service***

Oil products specifically developed for this kind of service. As a result, Bos was able to effect great savings by lengthening lubrication periods up to 50%.

In addition, through taking advantage of the nation-wide Truck Stop Plan, Bos is able to end its terminal fueling operations. They thus eliminated costly equipment and storage facilities achieving further economies.

And that's why Bos Lines, Inc., likes American Oil products and service.

Bos Lines, Inc., uses these **AMERICAN** products

AMERICAN® Gasoline
AMERICAN® PREMIER® Diesel Fuel*
AMERICAN® S-3 Motor Oil
AMERICAN® Multi-Purpose Gear Lubricant
AMOCO® Gear Lubricant
SUPER PERMALUBE® Grease
AMOCO® Automatic Transmission Fluid Type A

*Not available in Texas

Plus
AMERICAN
Truck
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VICTOR

GASKETS • OIL SEALS • PACKINGS



**You can't take chances with oil seals...
that's why we buy from the Victor Jobber**

Pay loads for fleet owners can turn into losses quickly when brakes give trouble. Too often, neglected, leaky oil seals are at fault. That's why progressive service shops always replace seals on brake jobs—always check them carefully when greasing wheels.

It's equally important that you insist on Original Equipment Quality seals—seals you know are made to factory specifications or better. The place to get them with "Johnny-

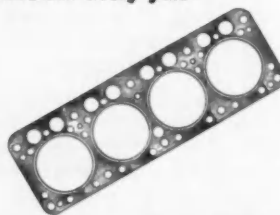
on-the-spot" service is your Victor Jobber.

On oil seals as on gaskets your Victor Jobber serves you with the 100% complete Victor line. He's

equipped with best catalog service—the famous Victor Gasket and Oil Seal Guides—and with accurately marked stock he gives you exactly what you need for every job.

Victor Manufacturing & Gasket Co.
P.O. Box 1333, Chicago 90, Ill.
Canadian Plant: St. Thomas, Ont.

VICTOR
GASKETS • OIL SEALS • PACKINGS



The 100% Coverage Line...for Cars, Trucks, Tractors, Stationary Engines

Legislative progress reports

Here are recent reports on national legislation that could affect fleet operations:

Private truck registration—ICC has postponed, to Oct. 24, hearings on proposed new rules for private truck fleets carrying dangerous commodities and grade crossing rules for these trucks.

Reorganization of ICC—The President's plan to revamp ICC will probably have to wait a year in light of present Congressional pressures. Kennedy, before it comes up again, will have to gain support for the measure if it is ever to pass.

Secret strike ballots—Congress is considering a measure which would require a favorable secret ballot vote before unions could call strikes to enforce contract demands. Action on it, however, won't come before next year. Sen. Mundt introduced the bill. Among its provisions: No strike vote before labor-management agreement ends, a secret strike vote would be taken on the 60th day or after.

Census of transportation—No decision yet. It's still with a House subcommittee that's holding intermittent hearings. ATA is opposing it, saying government should make maximum use of the transportation information it already has.

ICC hours of service revision—Private Truck Council and others have filed a request for an extension for filing exceptions with ICC over proposed changes in MC-40. ICC moved its date for filing exceptions up to Aug. 7. ICC then decides if exceptions warrant full-scale hearings.

Transportation problems—Congress continues to study the problems facing the transportation industry, but there's no prospect for action to be taken this year. This includes the Bartlett Bill (S1197) to require ICC to consider competing forms of transportation in setting tariffs (July, page 86).

Piggyback case goes to Supreme Court

Trucking interests hardly gave time for word of ICC's recent piggyback decision to filter across the country. They were already determined to take their case straight to the Supreme Court, hoping that tribunal would hear their case and find in their favor.

Decision in question was one in favor of railroads' Plan 3 and 4 (private carrier) piggyback rates for highgrade commodities, which are 11.6 to 16.4 per cent ahead of the regular first class rate.

Meanwhile, National Motor Freight Traffic Assn. and Regular Common Carrier Conference are asking the ICC Suspension Board to block new TOFC rate filings while the court reviews the ICC decision.

Specifically, the two groups asked the Suspension Board to hold up new TOFC rates between Chicago and Longview, Wash.

"There is no doubt that the correctness, as a matter of law, and the propriety, in the light of the National Transportation Policy, of the Commission's resolution of the basic issues therein will be judicially reviewed," the groups said.

They added, "It follows that sound practice requires that, until these issues are finally resolved, all cases in which they are present should remain pending."

ICC's decision in favor of the railroads' rates was 9-0.

Carriers get mobilization rules

American Trucking Assns. is distributing a digest of transportation mobilization orders which would take effect if a state of civil defense emergency were declared.

ATA is taking this action at the request of the U. S. Military Traffic Management Agency.

In a letter to carriers, ATA urged them to review the digest, make plans now for an emergency if it is declared.

Digest lists priority items (CD shipments, food, medicine, fuel) and system of permits for accepting shipments for cities attacked. Flexible system of emergency routing is also covered.

'Gray' trucks in Turnpike check

The "exempt" trucks, pulled over for ICC inspection on the Ohio Turnpike during May, point out one fact common carriers and private fleets probably could have predicted. . . .

The "exempt" trucks accounted for a higher percentage of vehicles

shuttled to an "out-of-service" parking area than their more legitimate counterparts. About 17 per cent of units inspected—tractors or trailers—of common carriers or private carriers were tagged "out of service." Some 23 per cent of "exempt" units inspected were halted—a clear six per cent difference.

Not much help

However, this per cent is not so large a difference as most fleetmen would have predicted, nor should be happy to see. ICC's figures point out there is still a substantial number of both types of fleet operating with unsafe maintenance, probably not enough difference to help the "gray area" argument very much.

What's behind mover suit?

Justice Department's antitrust suit against the "Big Four" movers and the major rate bureau is seen by many transportation experts as an effort to narrow the

(TURN TO PAGE 187, PLEASE)

Presenting...



Slipper Type
Autothermic
Heavy-Duty Aluminum

A Complete Line of

PISTONS

ALUMINUM ALLOY
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Making superior pistons for all types of cars, trucks, buses and tractors has been a special art with Permite for the past forty years. Permite engineers *introduced* the aluminum alloy piston to the automotive industry!

All Permite Preferred pistons are factory designs, with emphasis on strength, heat-resistance, positive control of thermal expansion, and accuracy of finish. You can use them with complete assurance that they will fit and perform efficiently.

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Permite preferred

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either way, you're covered

Year after year, leading fabricators of truck tarps use Wellington Sears fabrics. And for very good reason: year after year, these famous protective cover fabrics are tops in performance and appearance!

The wide range of Wellington Sears cotton ducks, distributed by leading jobbers, includes a hard-wearing brand for every application. Welkote nylon, our base fabric specifically engineered for vinyl or

neoprene coating, is the choice of quality coaters everywhere. In addition to strength, it provides unusual lightness and flexibility.

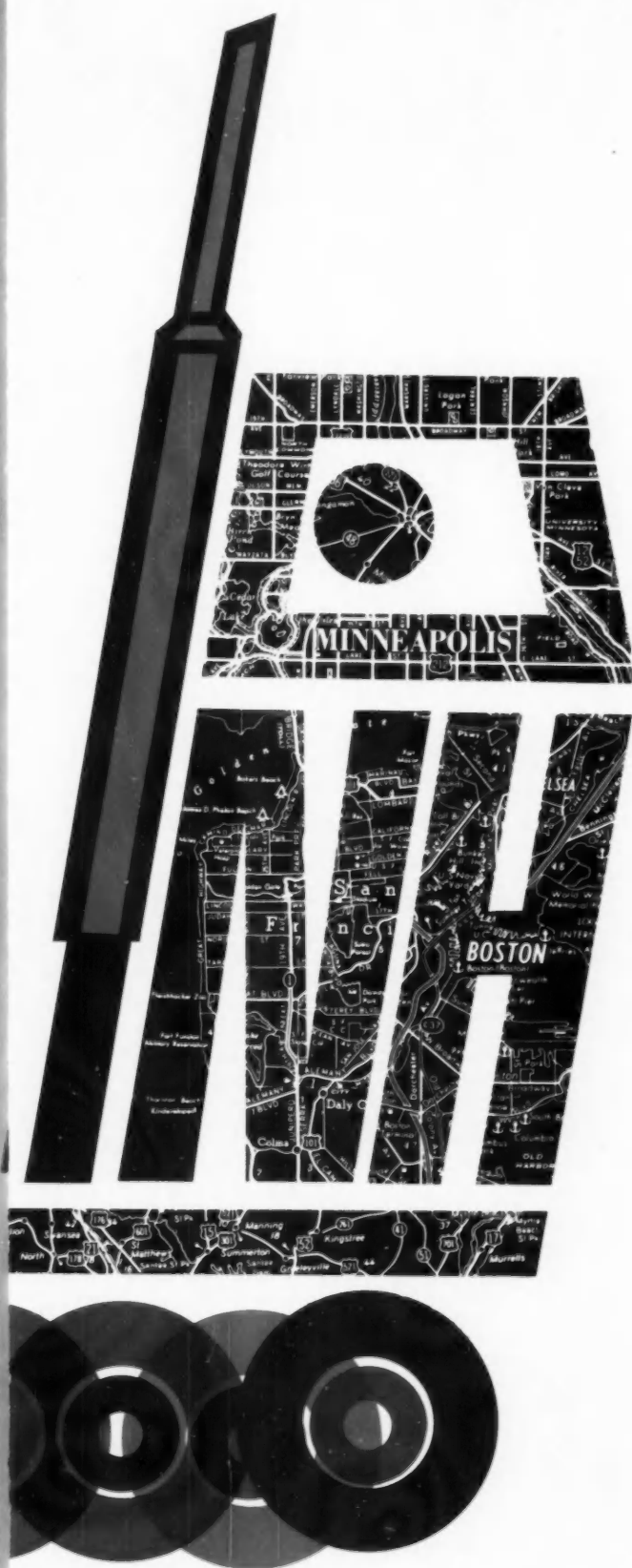
When you use Wellington Sears fabrics, you're giving your customers quality backed by more than a century of experience. Write Dept. Y-8, for names of suppliers—and for a free copy of our illustrated booklet, "Protective Cover Fabrics."

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FIRST IN FABRICS FOR INDUSTRY



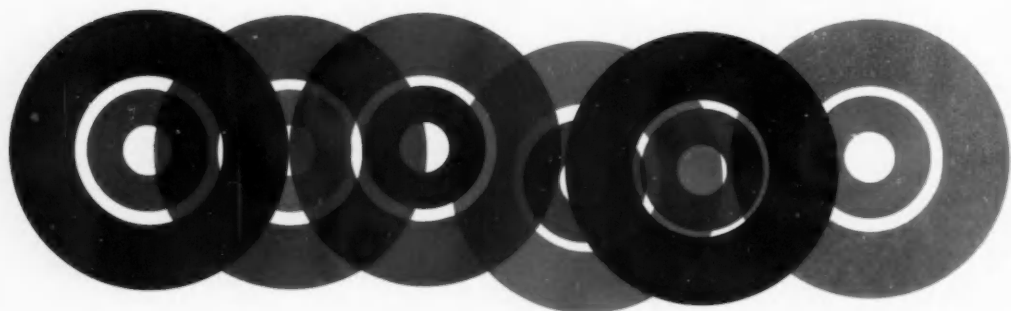
Wellington Sears Company, 111 W. 40th St., New York 18, N. Y. • Akron • Atlanta • Boston • Chicago • Dallas • Detroit • Los Angeles • Philadelphia • San Francisco



**SPECIFY
CUMMINS
NH DIESELS
THE MOST
PROVEN
DIESELS
ON THE ROAD**

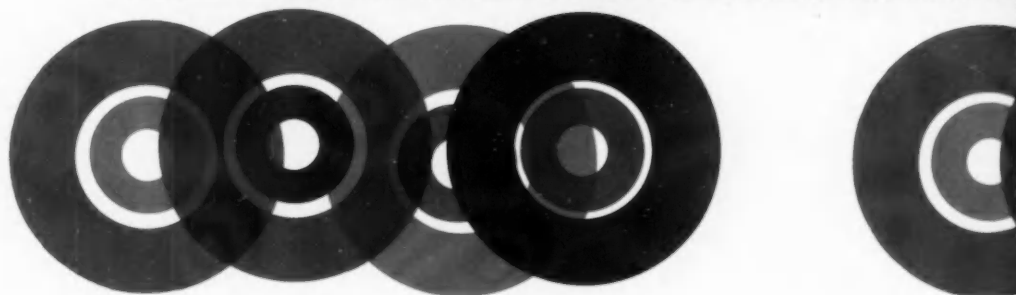
WHE180

WHE195



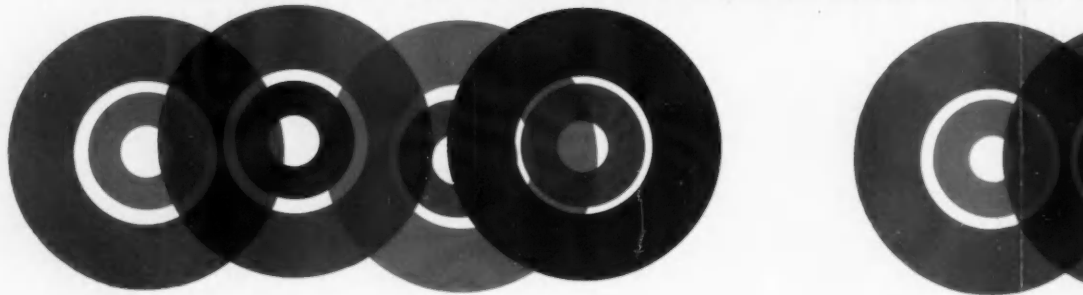
NH 220

NH 250



WH 220

WH 250





**SPECIFY
CUMMINS
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THE MOST
PROVEN
DIESELS
ON THE ROAD**

**NHE
180**

PROOF!
CUMMINS
NH DIESELS
EARN MORE
PROFIT
WHEREVER
THEY OPERATE

Proven in the South

Ryder Truck Lines, Inc., Miami, Florida, one of the nation's largest commercial fleets, operates 77 Cummins NHE-180 Diesels. Although these engines are little more than a year old, they have run up over 7 million low-cost miles. D. D. Hodges, Vice-President and Director of Maintenance for Ryder, has this to say:

“Ryder has operated NHE Diesels since May of 1960. In this time, we have logged about 100,000 miles per engine. The mileage they have delivered is excellent; in fact, the NHE's are proving more economical than we had hoped.”

Ryder is only one fleet of the vast number of fleets across the country who are getting the unusual economy, long life and dependability of NHE operation. Fleet reports prove the NHE's deliver from 3½% to 23% better fuel mileage than any other diesel on the road. If you use 180 horsepower, do as the cost-conscious fleets below have: specify Cummins NHE-180 Diesels!

Proven everywhere: Carolina Freight Carriers Corporation • Delta Motor Line, Inc. • Dohrn Transfer Co. • Hall's Motor Transit Co. • Fowler & Williams, Inc. • Hemingway Brothers, Brooks Division • Hemingway Brothers Interstate Trucking Co. • S. & W. Motor Lines, Inc. • Lyons Transportation Co.

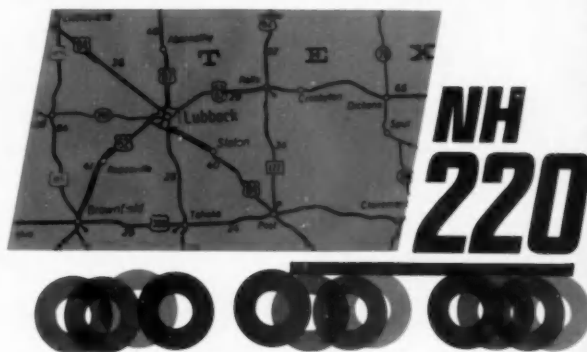


Proven in the East

Super Service Motor Freight Lines, Nashville, Tennessee, operate 105 Cummins NHE-195 Diesels from Georgia up to Massachusetts. Their rebuild schedule points up one of the long life advantages of the NHE's. Paul Vance, Maintenance Superintendent, reports:

“North and South, our NHE Diesels cover grueling, hilly routes with ease. As far as we are concerned, the 195's have come through with flying colors. We are getting well over six miles to the gallon and good availability. Our NHE's are scheduled for rebuild at 350,000 miles as compared to 100,000 miles for our gas units.” More miles between overhauls, more miles per gallon are good reasons why Super Service is so enthused about the NHE-195. This big bore diesel has all the features of the NHE-180, and delivers 15 more horsepower. Join the fast-growing number of satisfied operators, some of whom are listed below, by specifying Cummins NHE-195 Diesels!

Proven on any job: A&H Truck Line, Inc. • Central Truck Lines, Inc. • Jack Cole, Co. • East Texas Motor Freight • Ellis Trucking Co., Inc. • G&H Transit Co., Inc. • Hoover Motor Express Co., Inc. • Lombard Bros., Inc. • Mashkin Freight Lines, Inc. • Pilot Freight Carriers, Inc. • Wooster Express, Inc.



Proven in the Midwest

T.I.M.E. Freight Inc., Lubbock, Texas, powers over 70% of its coast to coast fleet with America's most dependable diesel, Cummins NH-220. T.I.M.E. has been specifying NH's since 1953. A. L. (Mike) Springer, Director of Equipment and Properties, says: “Our Cummins NH-220's are real work horses. They average 150,000 miles per year, over a wide range of operating conditions. Eight years of operating Cummins NH-220 Diesels has been eight years of dependable performance.”

Wherever Cummins NH-220's operate, truckers get dependability, long life, honest performance and economy. Since its introduction to the truck industry in 1944, the Cummins NH Line has set the standard for over-the-road power. The NH-220 is the main reason why Cummins powers more new trucks than all other makes of diesels combined! When your jobs require 220 horsepower, do as the fleets below have: specify the proven performance of Cummins NH-220 Diesels!

Proven Coast to Coast: Associated Transport, Inc. • Be-Mac Transport Co., Inc. • Denver Chicago Trucking Co., Inc. • Dixie Ohio Express, Inc. • Husmann & Roper Freight Lines, Inc. • Nigro Freight Lines, Inc. • Spector Mid-States • Transcon Lines



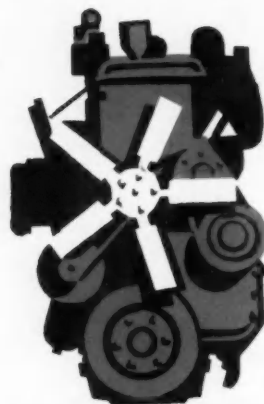
Proven in the West

Wells Cargo and Wells Overseas Ltd., Reno, Nev., have specified Cummins Diesels for years. Their trucks are familiar sights from Oregon to California; Arizona to the west coast. Overseas, they operate in the mountains of Peru and Chile. Operating over rugged terrain like this takes big power. R. C. Wells, Secretary and Treasurer, states:

“We are sold on the additional power of Cummins NH-250. We operate in an area from sea level to 9,000 feet and the power is always there when we need it. We have reduced our travel time and downtime with the NH-250.”

Operators whose job requirements are similar to Wells Cargo's are sending in like reports. They get 30 more hp with the NH-250 plus the long life and dependability of the Cummins NH-220. The new, big bore NH-250 is the most powerful, naturally aspirated diesel on the road. It produces the power that moves freight faster! Below are listed some of the fleets who have specified the big power of Cummins NH-250 Diesels.

Proven border to border: Asbury Transportation Co. • Belyea Truck Co. • H & W Motor Express Co. • Oregon Nevada California Fast Freight, Inc. • Pacific Intermountain Express Co. • United Truck Lines, Inc. • Cooper Brothers Trucking • Fore Trucking Co.



NH DIESELS ARE AVAILABLE IN THESE FAMOUS-MAKE TRACTORS

AUTOCAR
BROCKWAY
CLINE
DIAMOND T
DODGE
FORD
FREIGHTLINER
FWD
HENDRICKSON
INTERNATIONAL
KENWORTH
MACK
OSHKOSH
PETERBILT
REO
WALTER
WHITE

CUMMINS

CUMMINS ENGINE COMPANY, INC.,
COLUMBUS, INDIANA



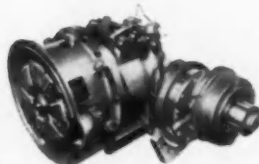
TRAILER AXLES
18,000 and 20,000 lbs



STEERING AXLES
1,500 to 9,000 lbs



PLANETARY AXLES
over 50 models, drive and steer;
6,500 to 120,000 lbs



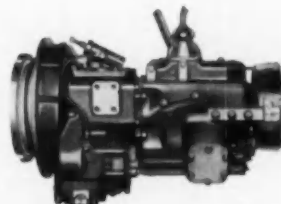
**AXLE-TRANSMISSION
UNITS**
agricultural and industrial

POWER TAKEOFFS

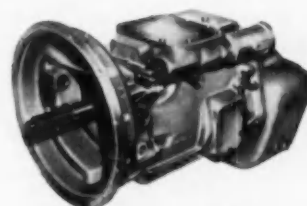
Flywheel,
countershaft,
and conven-
tional types



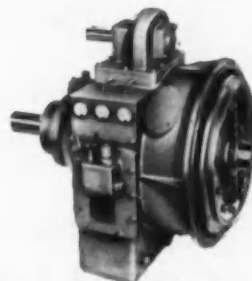
AXLE HOUSINGS
5,000 to 23,000 lbs



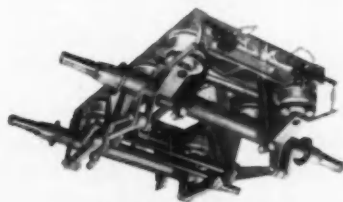
TRANSVERTERS
torque converter-clutch-
transmission packages



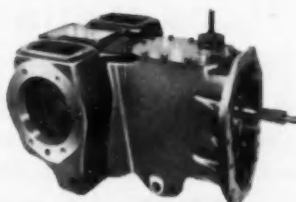
TRANSMISSIONS
50 to 1400 lb-ft torque ratings



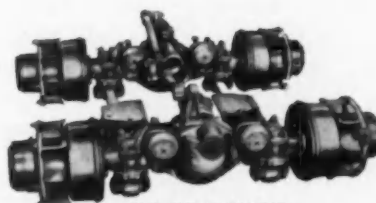
TORQUE CONVERTERS
9" to 28" diameters



AIR SUSPENSIONS
single, tandem, and spreads;
up to 36,000 lbs



AGRICULTURAL UNITS
transmissions, axles, PTO's



BOGIE DRIVES
45,000 to 180,000 lbs

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of course

Whatever your needs in power transmission equipment, chances are you can get it from Clark.

Even more important, chances are a Clark unit *now in standard production* will do the job for you.

For Clark's Automotive Division, in its nearly 60 years of specialization in the power transmission field, has developed what is probably the broadest line of heavy-duty axles, transmissions, and torque converters available today.

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1 HIGH-SPEED OPERATION

Balanced release levers permit high-speed drives. Lever "throwout" is eliminated for longer bearing life. Patented anti-friction rollers give instant release with minimum pedal pressure.

2 ACCURATE FIT

Close-tolerance drive between cover and pressure plate assures smooth starts. Highly accurate bolt circle fits flat flywheels—accurate outside pilot diameter fits counterbored flywheels.

3 VIBRATION DAMPENER

Coil-spring vibration dampener absorbs vibrations between engine and transmission. Noise, rattle and thrash in the gear train are eliminated for smooth, quiet clutch operation.

**ROCKFORD
SPRING-LOADED
CLUTCH**


International model C-130 Dump Truck equipped with Rockford Spring-Loaded Clutch

**4 HIGH-TORQUE DESIGN**

Powerful engagement springs, properly spaced over the facing area, assure maximum driving contact. Compact, low-inertia design prevents gear clashing and delayed shifting.

5 SMOOTH ENGAGEMENTS

Dynamic and static balancing assures you of smooth, enduring clutch performance. Both driving and driven members are balanced to eliminate vibration.

6 HIGH-TEST FACINGS

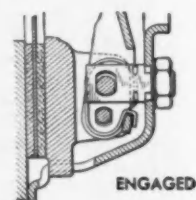
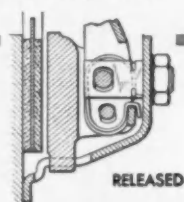
Using only the highest quality facings, Rockford Clutches give extra-long clutch life, provide cushioned starts, reduce scoring and greatly cut costs of downtime replacement and labor.

7 PERFECT ALIGNMENT

Close-tolerance splined hub assures perfect disc alignment. Through-hardened hub gives long life. Precision manufacturing and rigid quality control eliminate chances for misalignment.

7 Good Reasons Why Idea-Men Count on Rockford Reliability

Above are seven reasons why more and more design men specify Rockford Spring-Loaded Clutches. Equally important, ROCKFORD RELIABILITY is due to 63 years of creative engineering, precision manufacturing and rigid quality control. Rockford offers complete design engineering service at no cost or obligation. You're backed by a worldwide service network. Write today for complete details on ROCKFORD RELIABILITY.



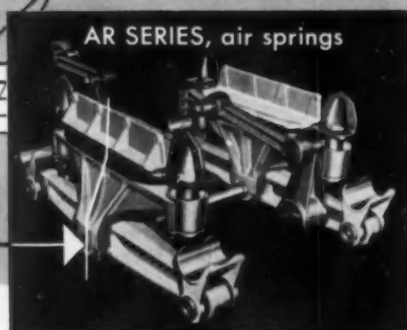
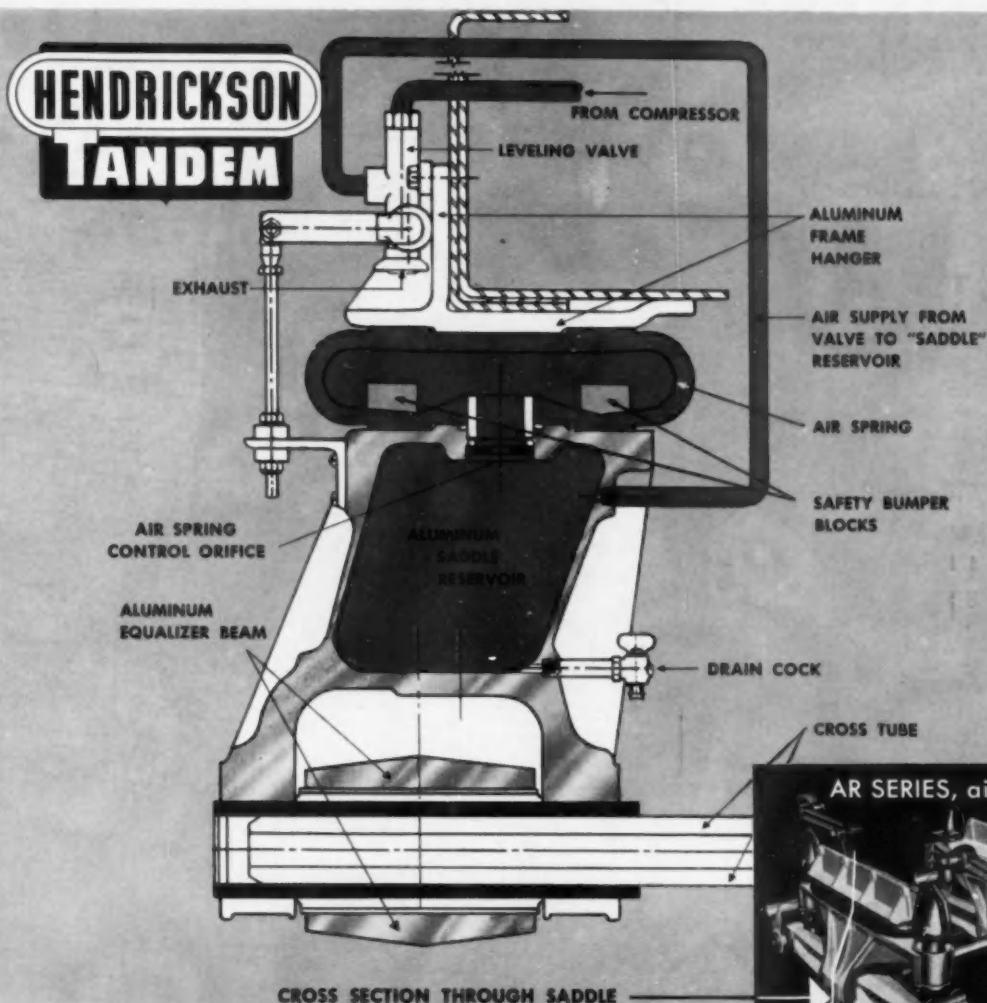
ROCKFORD CLUTCH

1203 WINDSOR ROAD, ROCKFORD, ILLINOIS

Export Sales Borg-Warner International • 36 So. Wabash, Chicago, Ill.



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AIRBORNE PAYLOADS

WITH **HENDRICKSON
TANDEM**

PROVEN DESIGN

Built on the proven Hendrickson Tandem design, the Model AR Air Ride Suspension features:

- **AIR CUSHIONED RIDE** — maximum cargo protection, driver comfort, reduced strain on equipment.
- **CONSTANT FRAME HEIGHT** — maintained under all load conditions.
- **AUTOMATIC LEVELING VALVES** — supply air to air spring in proportion to load.
- **STABILITY** — Hendrickson patented vertical drive pin design provides stability not found in any other design.

- **SAFETY** — if air should be lost, vehicle may still be operated on rubber safety blocks.

Hendrickson Air Ride Tandems have been field tested over millions of miles under every type of truck and trailer application. The Air Spring is only called upon to perform the function of cushioning the load. Hendrickson equalizing beams provide complete articulation and equalize the load be-

tween axles, reducing the effect of road irregularities 50%. Rubber bushings throughout eliminate lubrication requirements. Aluminum components are available for even greater weight savings, and four point mounting does away with stress concentration on the frame.


Air Cushion Ride combined with proven Hendrickson Tandem design adds up to money saving and dependable installations for all operations.

All Hendrickson Tandem Suspensions are interchangeable between trucks, tractors and trailers—and between various makes of drive and trailer axles.

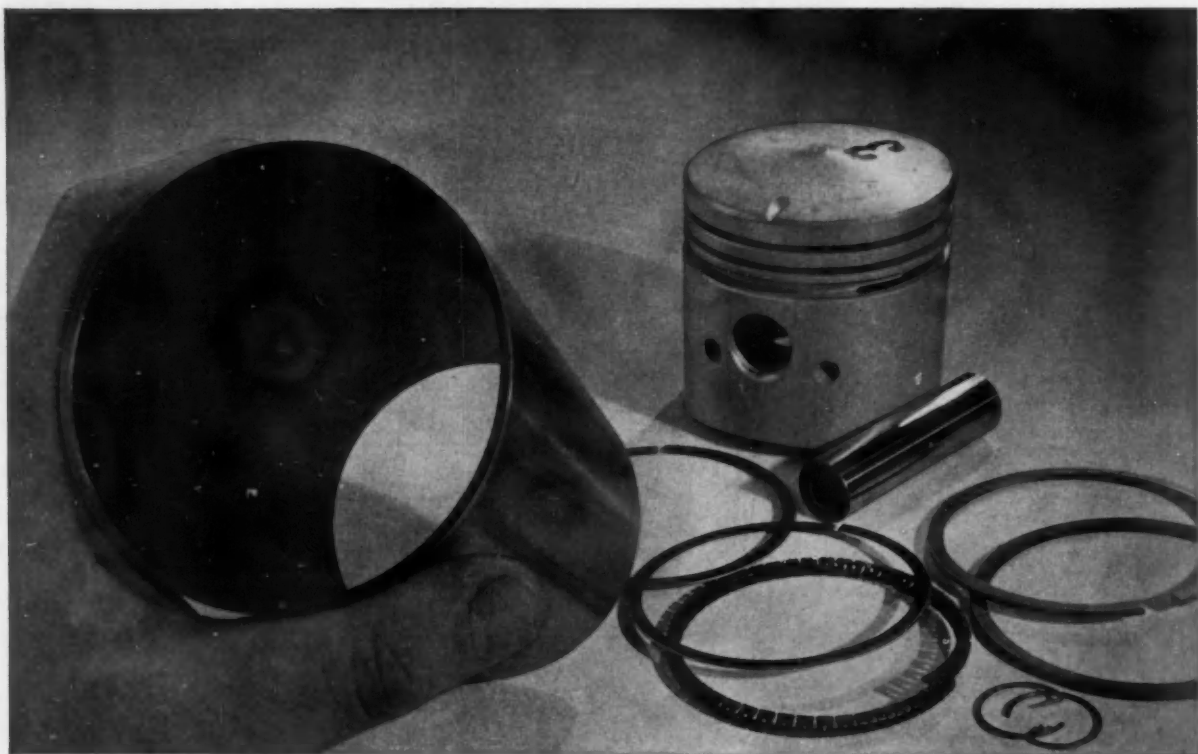
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Mfg. Co. ®

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EVERY _____ miles
 _____ miles
 _____ miles
 _____ miles
 _____ miles



This scientific, tested maintenance plan will help you pile up record mileage between overhauls. It is the result of Gulf's many years of experience in working with fleet owners. You'll share in maintenance knowledge that has already proved successful for



YOU CAN LOOK . . .

***But it's the vital differences you can't see
that make such a big difference in an engine!***

● Your naked eye can't *see* the remarkably even grain structure in Allied cylinder sleeves. But it's there. The *right* hardness. The tiny flakes of graphite perfectly distributed. The result: fast, scuff-free break in . . . followed by exceptional wear resistance.

In short, you can't *see* the difference centrifugal castings make . . . except in your service records for long, trouble-free service.

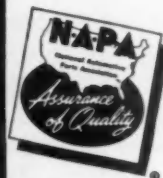
Allied pistons have equally important differences. The tolerances that are the closest in the industry. The extra features like tin finish on all aluminum pistons. The perfect match in both design and materials for the original equipment you're replacing.

This same quality extends to the chrome ring sets in every Allied sleeve assembly . . .

rings of the latest design that have proven their superiority more times than any other make of ring . . . in both original equipment and replacement applications.

Better see your N•A•P•A Jobber now . . . about the differences you can't see . . . until Allied helps you write them in your service records.

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INSTALL EXTRA SERVICE AND SAFETY

TUNG-SOL

THE ONLY COMPLETE HEAVY DUTY LIGHTING LINE!



On or off the highway, Tung-Sol Heavy Duty headlamps, miniatures and flashers—the industry's only complete line—provide performance and safety under the roughest conditions your fleet has occasion to meet.

Built-to-take-it Tung-Sol Heavy Duty Lighting products will also save you important maintenance money by providing long, trouble-free service. Install this extra service and safety. See your Tung-Sol supplier. Tung-Sol Electric Inc., Newark 4, New Jersey.

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HEAVY DUTY
LAMPS • FLASHERS



Capitalizing on man's desire to own his own business, two brothers parlayed an ice cream truck into Mister Softee, an international mobile soft ice cream franchise corporation in just a few years. In 1955, William A. Conway, a certified public accountant, and his brother, James F. Conway, a salesman, pooled their savings and borrowed some money from their cousin, Patrick Cavanaugh, Philadelphia restaurant owner. They built a small truck equipped as a mobile soft ice cream unit. All that summer, the Conways sold their delicious soft ice cream in Philadelphia.

Later, incorporated as Mister Softee, they assembled six more units and sold them to dealers on a franchise basis. The combination of the management know-how of the Conway brothers, sparked by the efforts of unit owners happy to be in business for themselves, proved irresistible. Business boomed and today Mister Softee has over 2,000 franchised mobile units in 37 states, England, Puerto Rico, The Virgin Islands and Canada. In 1960 dealers' sales of ice cream products topped \$30,000,000, and dealers' profit on a single mobile unit ranged around \$8,000.

USS Cor-Ten
Steel
rings
the bell
for
Mister Softee

How about the trucks? They are marvels of efficiency... built light and strong with bodies and frames of USS COR-TEN High-Strength Low-Alloy Steel. The first ones are still in operation. All were made by Boyertown Auto Body Works, Boyertown, Pa. The units are about 500 to 700 lbs. lighter than carbon steel construction... but COR-TEN Steel's high corrosion resistance makes them more durable. There's less maintenance, too... and the colorful paint jobs last twice as long on COR-TEN Steel and retain their fresh look despite frequent washings and exposure to the elements.

USS COR-TEN Steel is saving money for hundreds of fleet owners whose trucks take a real pounding. For more information on USS COR-TEN Steel, write United States Steel, 525 William Penn Place, Pittsburgh 30, Pa. USS and COR-TEN are registered trademarks.

United States Steel Corporation • American Steel and Wire Division • Columbia-Geneva Steel Division • National Tube Division • Tennessee Coal and Iron Division • United States Steel Supply Division • United States Steel Export Company



This mark tells you a product is made of modern, dependable Steel.

United States Steel



Now! the New **McQUAY- NORRIS**

MI-1000 Engine Bearing



the new ***MI-1000*** ENGINE BEARING

1. Precision Steel Back
2. Sintered Copper-lead Lining
3. Barrier Plate
4. One thousandth of an inch Babbitt Overlay
5. Pure Tin Flash

Longer engine life—less down time—more economical operation! The new McQuay-Norris ***MI-1000*** engine bearing insert offers these money-saving and money-making features because they are precision built to withstand heavier bearing loads and higher temperatures.

The ***MI-1000*** engine bearing has an "extra thin" babbitt lining only .001 of an inch

thick, electrolytically applied on a hard and durable sintered copper-lead base. The ***MI-1000*** has the fine anti-friction qualities of babbitt plus the terrific strength of copper-lead—so it is easy on the shaft, yet won't pound out under the most severe service.

The combination of the ***MI-1000*** plus McQuay-Norris Heavy Duty, Chrome Control, Leak-Proof Piston Ring set, not only keeps the job running longer, but also cuts gas and oil costs.

Yes, the new McQuay-Norris ***MI-1000*** engine bearing is a natural for fleet operators. Use them on your next job.

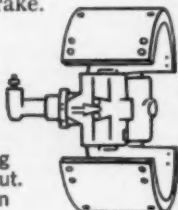
McQUAY-NORRIS MANUFACTURING CO., ST. LOUIS • TORONTO



ACTUAL TESTS PROVE:

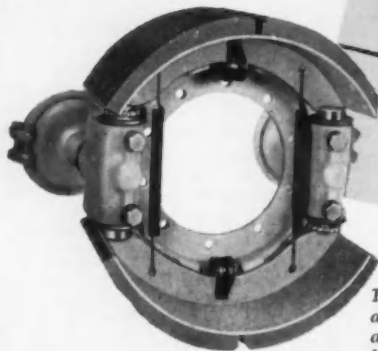
NEW STOPMASTER BRAKE IS the most advanced brake design in 30 years!

Over three years of thorough and demanding road tests have proven the superiority of the new Rockwell-Standard Stopmaster Brake. Of its many new improvements the Stopmaster incorporates these major advantages to meet the modern trucking industry's demand for a more efficient, more dependable brake.



New Stopmaster actuation principal results in higher braking efficiency with less input. In dual actuation design both shoes do an equal amount of work over the entire lining surface. This balanced shoe action assures more dependable service; faster, surer stops; less maintenance.

New Stopmaster 15" diameter permits increased air circulation between brake drum and wheel rim. This results in cooler operating temperatures... less heat fade, longer lining life, longer drum life. Smaller diameter means less weight.



Another Product of...

ROCKWELL-STANDARD
CORPORATION



Brake Division, Ashtabula, Ohio

AVERAGE RESULTS OF NUMEROUS
HIGHWAY VEHICLE TESTS PROVE:

35% lighter weight..

more payload
capacity!

38% less heat fade..

safer, more continuous
operation!

57% less air volume required..

permits smaller
air reservoir
tanks!

56% longer lining life..

lower operating cost,
less maintenance!

56% longer drum life..

more dependability,
less downtime!

66% less adjustment required..

greater safety,
reduced
maintenance!

37% less service parts

smaller inventories,
less expensive!

The Stopmaster 15" Brake is
available with either air or hydraulic
actuation... also up to 30" diameter, with
hydraulic actuation for heavy-duty, off-highway vehicles.



This van never makes a move without B.F. Goodrich

**WORLD-WIDE MOVER FINDS
BFG TRACTION EXPRESS TIRES
GIVE 15% MORE MILEAGE
THAN OTHER MAKES**

A fleet of 200 tractors and trailers crisscrosses the country moving everything from household goods to U. S. Government property. No room for tire trouble here, so Security Van Lines, Inc., of New Orleans, La., uses B.F. Goodrich Traction Express tires. The report: top-level reliability, plus 15% more mileage than other makes, and Traction Express tires can be retreaded 2 and 3 times.

Specify B.F. Goodrich Tubeless or tube-type tires when ordering new trucks or trailers

One reason for such outstanding tire performance is the B.F. Goodrich Flex-Rite Nylon cord construction. It withstands double the impact of ordinary materials, resists heat blow-outs and flex breaks. This BFG tire body regularly outwears even the extra-thick Traction Express tread. More B.F. Goodrich tires can be retreaded for more miles per retread.

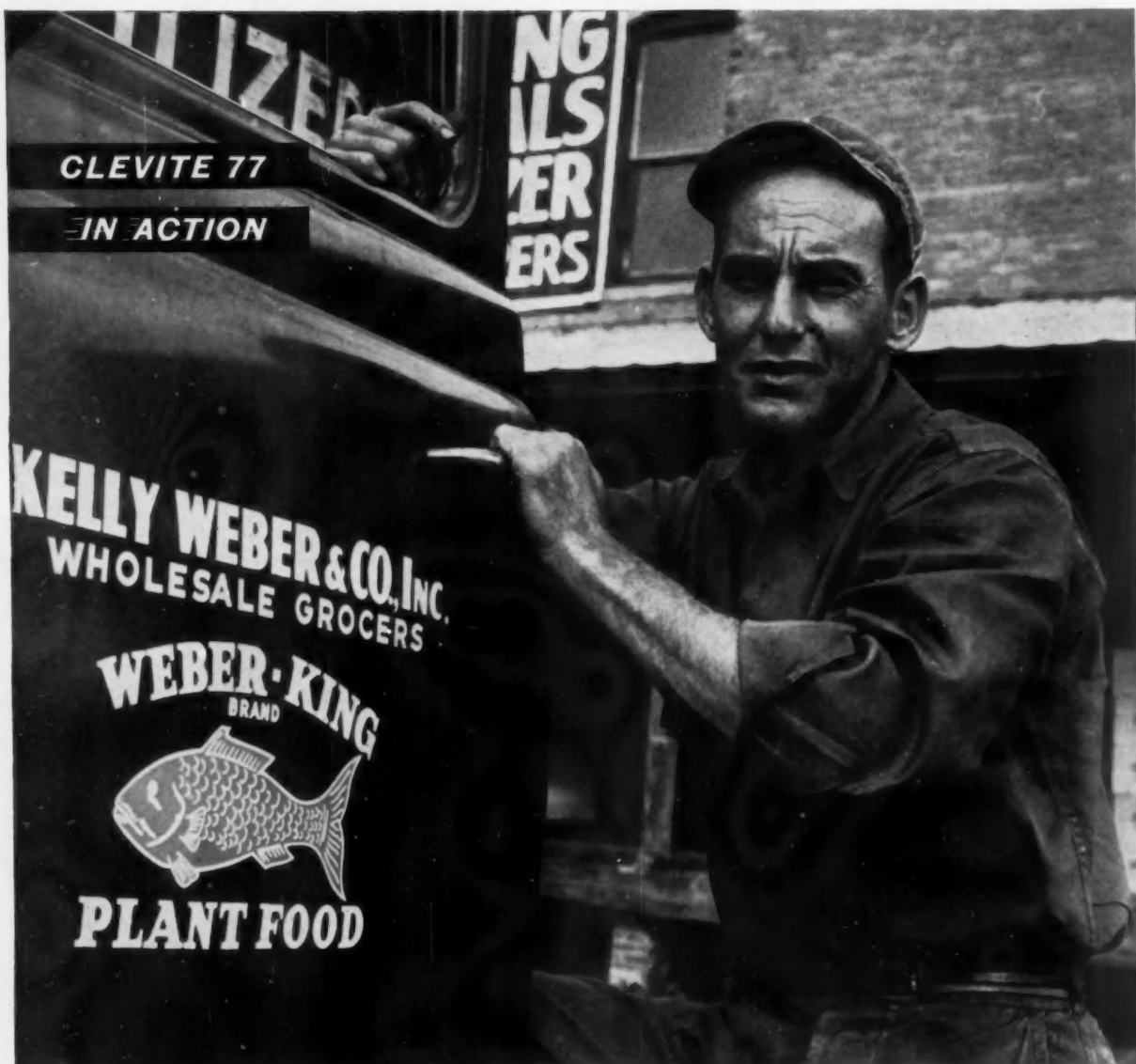
Another B.F. Goodrich extra is AccuRay®, a unique method of quality control that assures you of safer, stronger, longer-wearing tires.

Let your B.F. Goodrich dealer show you how to get the most out of your

tire dollars. He's listed under Tires in the Yellow Pages. See him today. The B.F. Goodrich Company, Akron 18, O.

Tire Saver Service cuts operating costs

New B.F. Goodrich plan *costs you nothing*, can save you big money. BFG truck tire specialist analyses your setup, inspects every vehicle in your fleet, studies your scrap tires. Written report includes recommendations and plan for paring tire costs, improving tire service. Ask your dealer about the free B.F. Goodrich Tire Saver Service plan today!

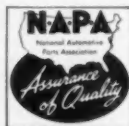


"Our trucks run longer with Clevite 77..."

... in fact, we never have bearing problems with Clevite 77. With more than 100 trucks, tractors, and cars to maintain, I can't fool around with anything but the best parts. I rebuild all our engines myself, and I like my work to be *right*. With Clevite 77 Bearings, I'm sure of a good job."

says Ernie LeDoux
Kelly Weber & Co., Inc.
Lake Charles, La.

Most maintenance superintendents, like Ernie LeDoux, know that Clevite 77 Bearings have the built-in quality to perform at a profit. Their patented tri-metal construction gives longer, trouble-free performance. For your next engine overhaul, get Clevite 77 from your NAPA jobber—he can give you complete service.



MONMOUTH Engine Bearings

CLEVITE SERVICE: Cleveland Graphite Bronze • Division of Clevite Corporation • Cleveland 3, Ohio



TELEPHONE COMPANY CLEANS TRUCKS 3 TIMES FASTER WITH MULTI-JOB WASHER



Just 15 minutes for a complete clean-up

Jenny® Multi-Job Washer makes muddy, grimy trucks sparkle like new again in just 15 minutes! That's the report from the Watertown Division of the New York Telephone Company. (The same clean-up used to take 40 to 45 minutes per truck.)

"It's easier, cleaner, quicker, less manual labor, no distracting odors and much more satisfactory," says their acting foreman about the Multi-Job Washer's work in restoring trucks to their attractive olive color.

Costing only \$325, the Jenny Multi-Job Washer gives you fast, thorough, controlled-heat cleaning, works indoors or out. It's electric, so there are no fumes. No flame. No fogging, either. You get a choice of heat up to 180° F. at 300 lbs. pressure for a real cleaning job—on vehicles, equipment, walls, ramps and floors.



HOMESTEAD VALVE MANUFACTURING COMPANY
Hypressure Jenny Division, Coraopolis, Pa.

In Canada: Hypressure Jenny Sales & Service, Ltd.,
517 Jarvis St., Toronto 5; Ontario (C.S.A. Approved)



Find out how you can cut your cleaning time and costs, **MAIL COUPON**

Please send me full information on Jenny Multi-Job Washer

Name.....Position.....

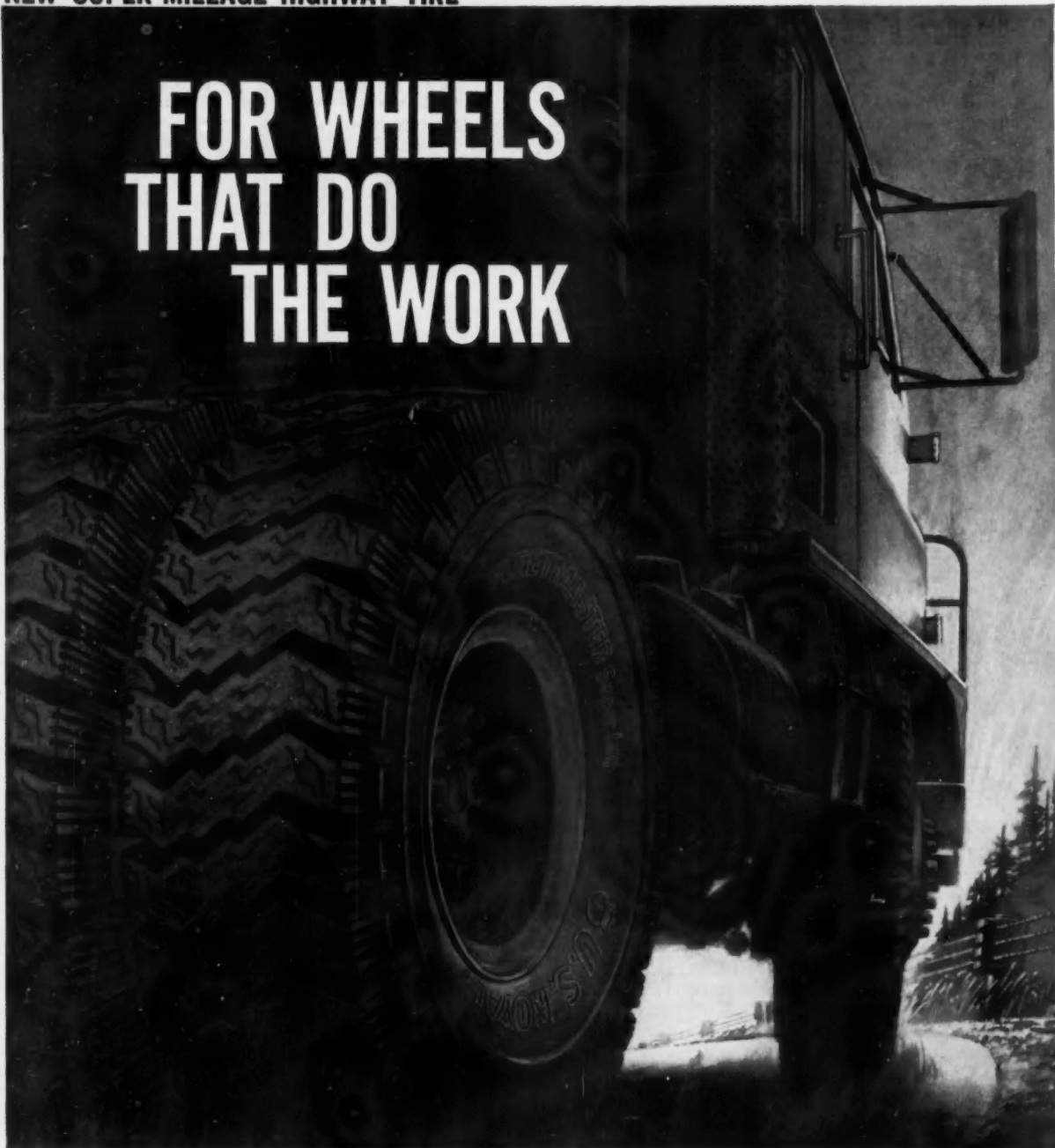
Company.....

Address.....

City.....Zone.....State.....

NEW SUPER-MILEAGE HIGHWAY TIRE

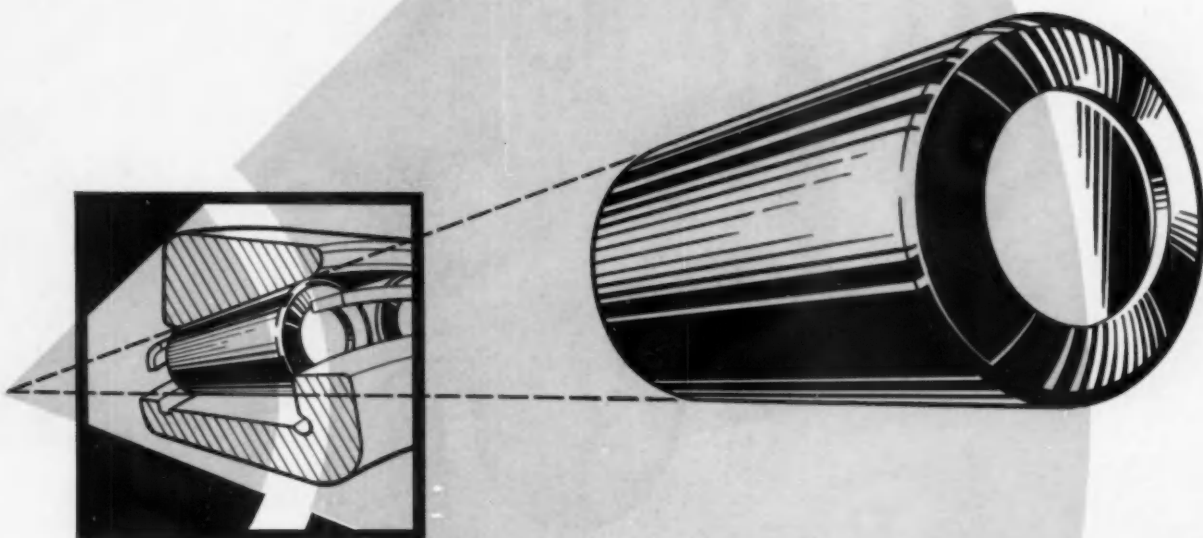
FOR WHEELS THAT DO THE WORK



U. S. ROYAL FLEETMASTER SUPER LUG Documented fleet tests show *consistent* 100,000-mile performance on drive wheels • Flattest, widest tread • New tapered lug design, plus 449 traction slots for over 1,000 extra inches of road-gripping edges • New post-cure process controls nylon growth—tires can be matched more accurately • More protection from ozone and weather • Prove-test them on your present equipment, specify them on new trucks or tractors • The full story is even more amazing; get it from your U. S. ROYAL DEALER.

U.S. ROYAL  **TRUCK TIRES**

 **UNITED STATES RUBBER**
Rochester Center, New York



What Bower does to roller heads to give tapered bearings longer life

Each roller head has a critical function in a tapered bearing. Since true rolling depends on exact roller alignment, the contact between roller heads and the surface on which they bear must be controlled. Bower Spher-O-Honed bearings are designed with a spherical radius on each roller head for built-in control. This eliminates sliding and skewing and results in longer bearing life.

Radius grinding of roller heads is the major process in

Spher-O-Honing. In addition, precision honing of cone raceways, flange faces and rollers allows smoother rolling. By providing an O-shaped lubrication groove at the base of the cone flange, friction on roller heads is reduced to a minimum. These processes all contribute to the operating efficiency and longer life of Bower tapered-roller bearings. You'll find that your Bower bearing jobber can supply you with the roller bearings you need, in all types and sizes. Call him when you need replacements.



BOWER ROLLER BEARINGS

FEDERAL-MOGUL SERVICE

DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC. • DETROIT 13, MICH.



SAVE \$414 per truck IN THE FIRST YEAR! NEW FORD ECONOLINE VANS

Now, you can save \$312 to \$433 in price* alone on a Ford Econoline Van compared to the leading conventional half-ton panels. In addition, you can save over \$100 every 16,000 miles you drive!

These savings come with a man-size truck. The Econoline's cab-forward design with welded "body-frame" gives bridge-like strength and reduces dead weight to haul over ¼-ton. Only 14 feet overall, Ford Econolines are nimble in traffic, easy to park, need less garage space. Big 4-ft. door opening (both curbside and rear) and level cargo floor provide new loading ease . . . new load workability.

Special Note To Pickup Owners: Now, you can protect your loads from weather and theft with an Econoline Van . . . yet, pay less* than for most conventional ½-ton pickups. And you can get the same \$102 savings on operating expenses as shown at the right.

*Based on a comparison of latest available manufacturers' suggested retail prices



HERE'S HOW YOU SAVE

SAVINGS ON OPERATING EXPENSES EVERY YEAR!

GAS—Econoline trucks can give 30% better gas mileage than conventional ½-tonners. Figuring 16,000 miles per year at prevailing gas prices, you save.....

\$70

OIL—Crankcase capacity is only 3½ quarts instead of 5 quarts, and the recommended oil change interval is 4,000 miles versus 2,000 miles. In 16,000 miles you save.....

\$13

TIRES—Econoline tires last longer, cost less to replace. Prorated saving for 16,000 miles as high as \$53. Typical saving.....

\$16

LICENSE—In many states (not all) the license for an Econoline costs appreciably less—up to \$30.40 per year. Average for all states is.....

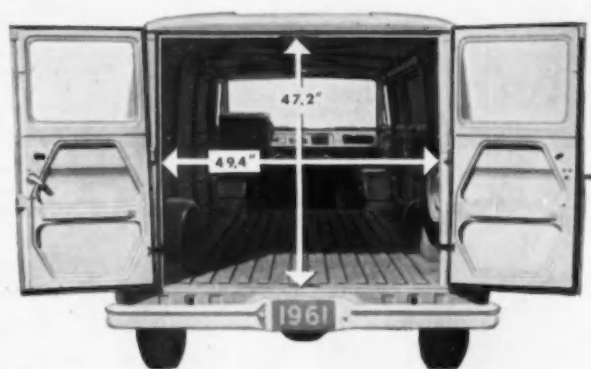
\$3

\$102

SAVING ON PRICE—You can save \$312 compared to even the lowest-priced popular ½-ton panel—and up to \$433 against others! Saving at least.....

\$312

TOTAL FIRST YEAR SAVINGS... \$414
and you keep saving
\$102 EVERY YEAR!



NO REAR ENGINE HUMP!

The Econoline's "up front" engine leaves a level, knee-high floor almost 9 ft. long. There's no awkward rear-engine-housing hump to shrink the back entrance or hinder loading. And the Econoline Van provides over 204 cu. ft. of loadspace . . . up to 80 cu. ft. more than conventional ½-ton panels.

FORD TRUCKS COST LESS

SEE YOUR FORD DEALER'S "CERTIFIED ECONOMY BOOK" FOR PROOF!



FORD DIVISION, *Ford Motor Company*

LOOKING FOR



BETTER "EYE" APPEAL?

Make your fleet sell as well as deliver

Does your fleet have eye and safety appeal? Is paint durability a problem? What about weather resistance, color and gloss retention? Is the finish easy to apply? Does it dry fast with complete coverage?

If you answered no, or don't know the answer to all these questions, you will want to learn more about KEM® TRANSPORT ENAMEL and the Fleet Painting Specification Service now offered by The Sherwin-Williams Company.

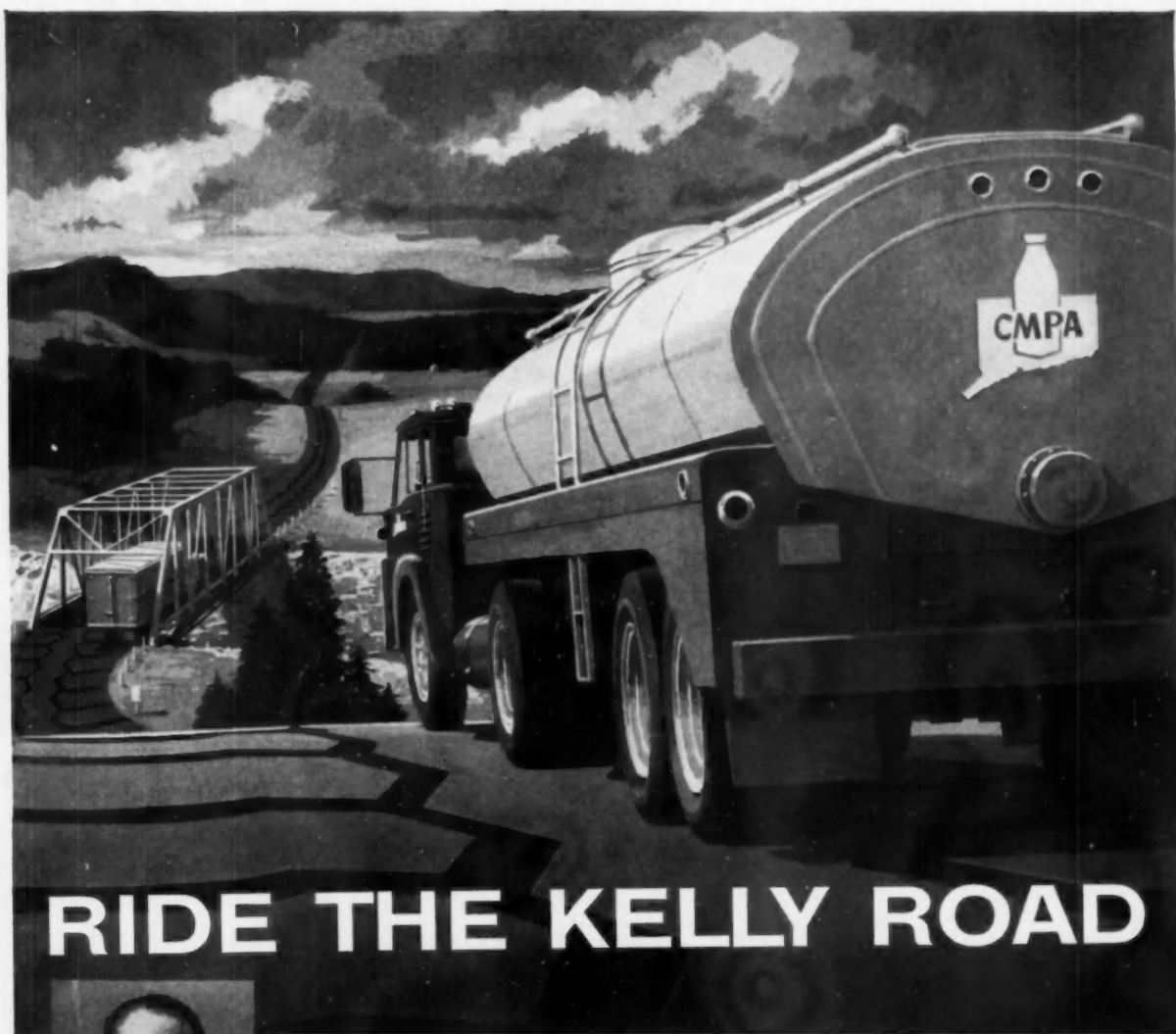


SHERWIN-WILLIAMS
AUTOMOTIVE FINISHES



SEND FOR YOUR FREE COPY OF THIS
NEW GUIDE TO "BETTER EYE APPEAL"

Address The Sherwin-Williams Company,
Automotive Division, Cleveland 1, Ohio,
and Montreal, Canada. Export Division,
Newark 1, New Jersey.



RIDE THE KELLY ROAD



like C.M.P.A. has for years!

*Charles B. Whiting
of Connecticut Milk Producers Association, Hartford, Conn., says:*

"We've been using Kelly tires for years—Kelly CHT's on the front and Dual Tracs on the drive wheels. They deliver good original mileage—take more retreads per carcass—keep our costs per mile to a minimum."

Unusual? No. Large companies—small companies—all are finding Kelly tires deliver longer wear, more economy. The reason is Kelly craftsmen build extra mileage and safety into every Kelly tire.

How about your operation? Are you getting all the dependable mileage, all the economy you feel you should from your present tire investment? If not, put your trucks on the Kelly Road and see how much you'll save. There's a dependable Kelly tire for every type of truck and car. Contact your friendly Kelly dealer, or write: The Kelly-Springfield Tire Co., Cumberland, Md.

KELLY DUALTRAC. Gives sure traction off the highway; rolls smoothly on. Extra heavy tread of exclusive Armorubber resists chipping and tearing. Nylon-cord body remains strong for several retreads. Tubeless or tube type.



PROVED AND IMPROVED FOR 67 YEARS!



*you can get
Chevy parts
for your fleet*

PDQ!

*at your
Chevrolet
dealer's!*

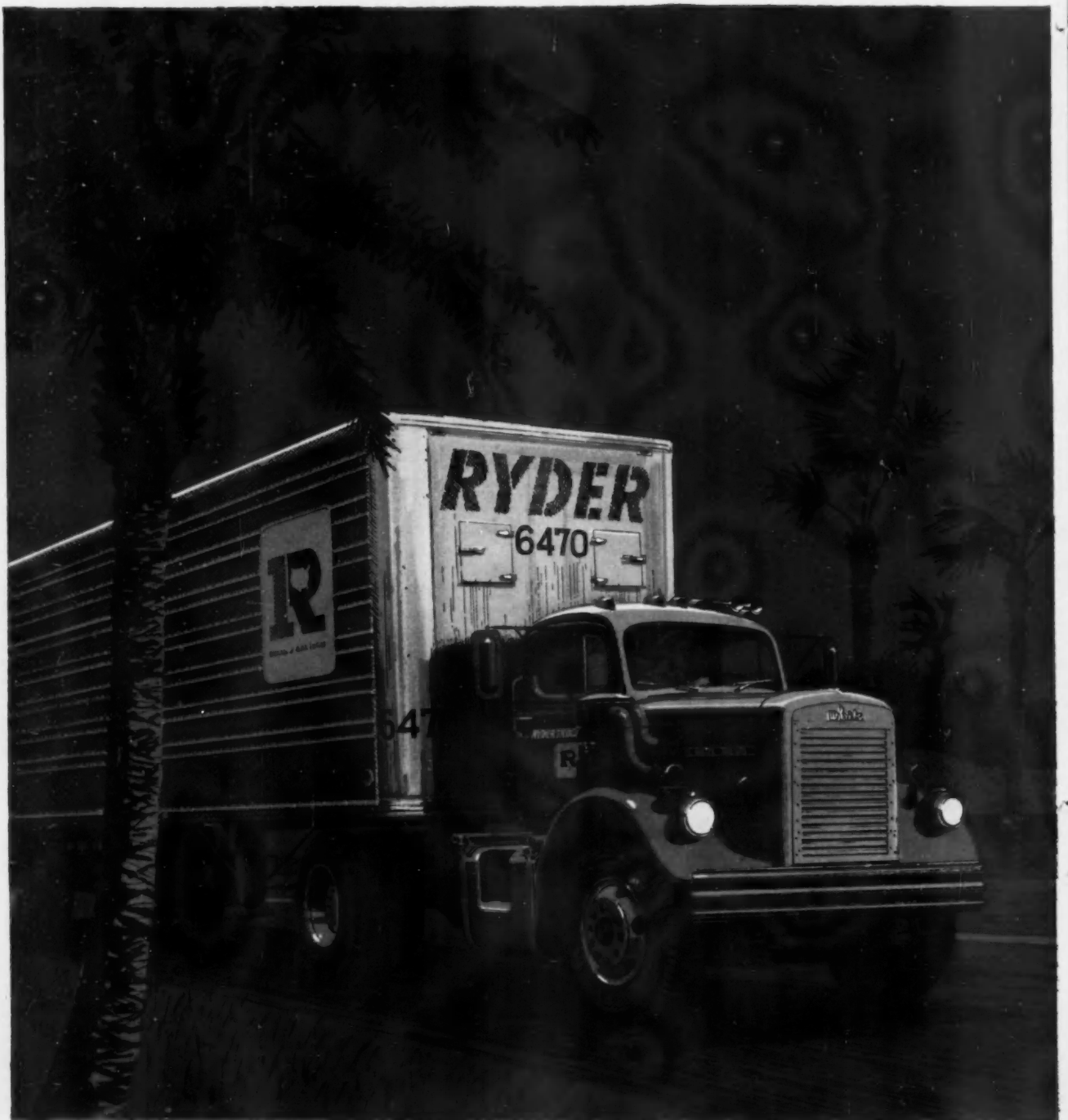


Your Chevrolet dealer's parts manager is the man to call when you need parts in a hurry for your Chevy fleet. He makes a specialty of filling rush orders. And you get the same PDQ (Parts Delivered Quick) service whether you order an infrequently used or fast-moving part—a single gasket or a complete engine overhaul kit. Even if he happens to be temporarily out of stock on a particular part, he can get it to you PDQ from one of Chevrolet's 41 warehouses. What's more, when you use *genuine* Chevrolet replacement parts, you know you're protecting your fleet investment with the same quality and long-run reliability that were built into your Chevrolets part by part. What better reasons could you have for getting in touch with your Chevrolet dealer the next time you need a Chevrolet part! . . . Chevrolet Division of General Motors, Detroit 2, Mich.



PDQ means parts delivered quick—and that means genuine Chevrolet parts!

WHITE DIESELS



SET NEW ECONOMY RECORDS FOR RYDER!

"In over seven million miles of heavy-duty hauling, our new White 9000's, powered with White-Cummins NHE 195 diesel engines, have given us operating and maintenance costs lower than any other vehicles with comparable mileage in our fleet!"

That's the kind of all-around economy and stamina Ryder Truck Lines sees in grueling round-the-clock operations, day after day. Because these WHITES offer big-displacement diesel power, dependability and long life *combined* with small-displacement economy—especially engineered for maximum economy in the WHITE 9000 chassis. And the short 90" bumper-to-back-of-cab chassis dimension permits longer trailers, bigger payloads.

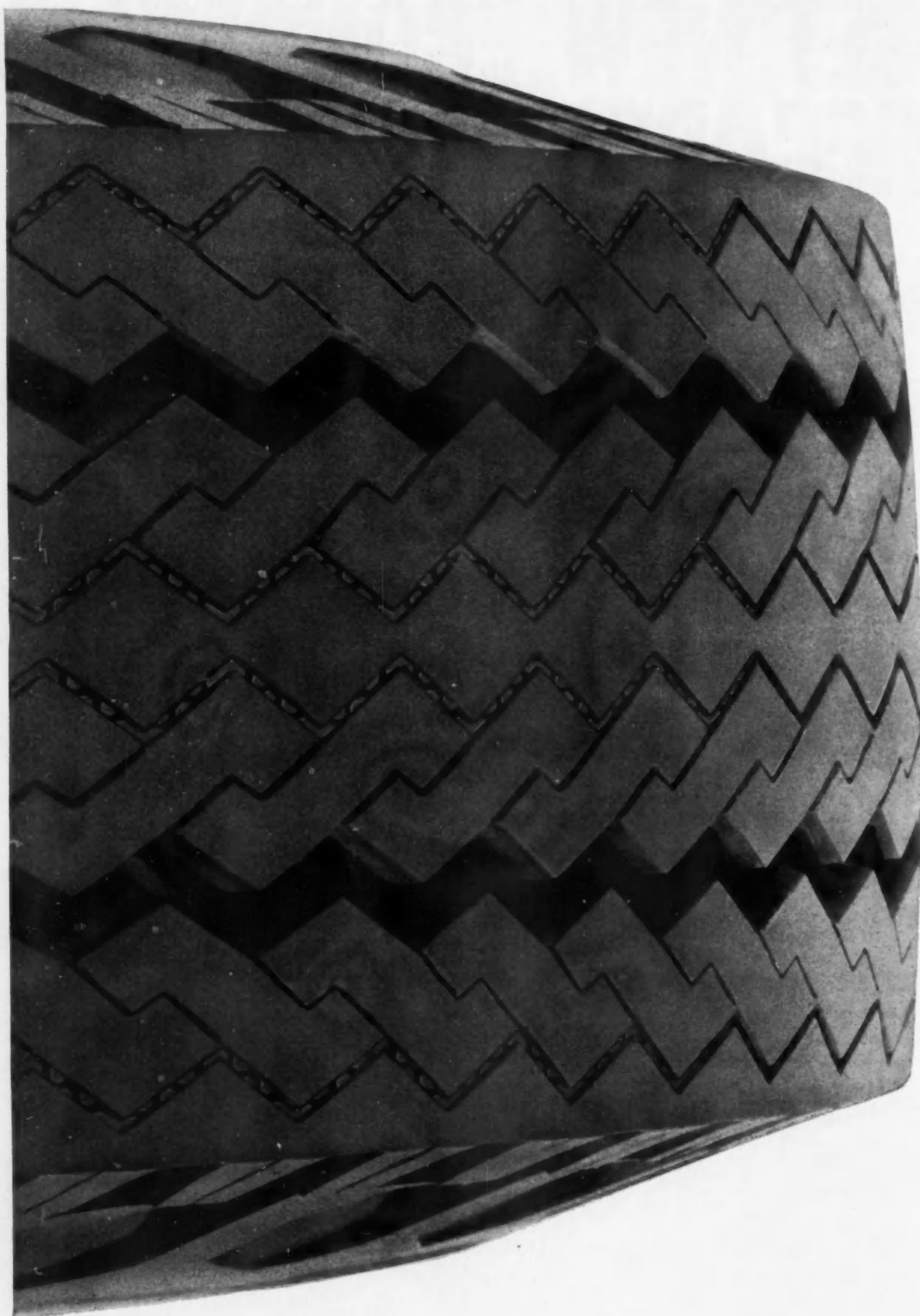
Another example of how WHITE advanced design and custom-engineering provide the answer to rising hauling costs. Ask for a demonstration today.

THE WHITE MOTOR COMPANY, CLEVELAND 1, OHIO

Branches, distributors and dealers in all principal cities

WORLD  LEADER IN HEAVY DUTY TRUCKS
WHITE TRUCKS


One of 77 WHITE 9000TD's, powered by WHITE-CUMMINS Economy Diesel engines, operated by Ryder Truck Lines, Inc., Jacksonville, Fla.



A close look tells why! New **Firestone** Transport-100 truck tire boosts mileage 50% (yet costs no more)

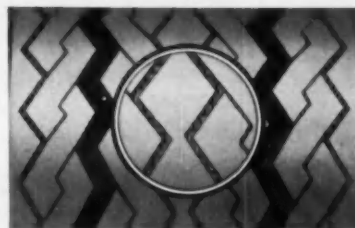
Take a look at this totally new 3-rib truck tire! Totally new, yet already proved in over 109,000,000 miles of fleet tests to bring you 50% more original tread mileage and much greater drive wheel traction. With its completely new Rubber-X compound and Shock-Fortified cord body, the Transport-100 can give you an extra tire mile for every two you run . . . stops in 2/3 the distance most other truck tires require on wet, slick or snow covered pavement . . . and it is *noise-treated* for quieter running. You'd expect to pay more, but the big news is this: *You can start running on Firestone Transport-100 tires now at no extra cost!* Available in nylon or Tyrex® rayon cord, tubed or tubeless, at your Firestone Dealer or Store. **Always Specify Firestone Tires on New Trucks.**

Copyright 1961, The Firestone Tire & Rubber Company

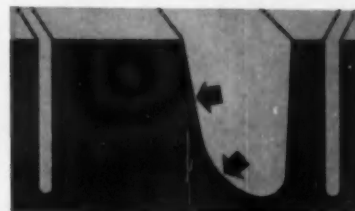
MEMBER  THE AMERICAN TRUCKING INDUSTRY
®T.M. of Tyrex, Inc. Transport® T.M. Firestone®



NEW flatter crown to give greater road contact for even wear and added mileage.



NEW "stone guards" built right in to keep tread free of damaging gravel and pebbles.



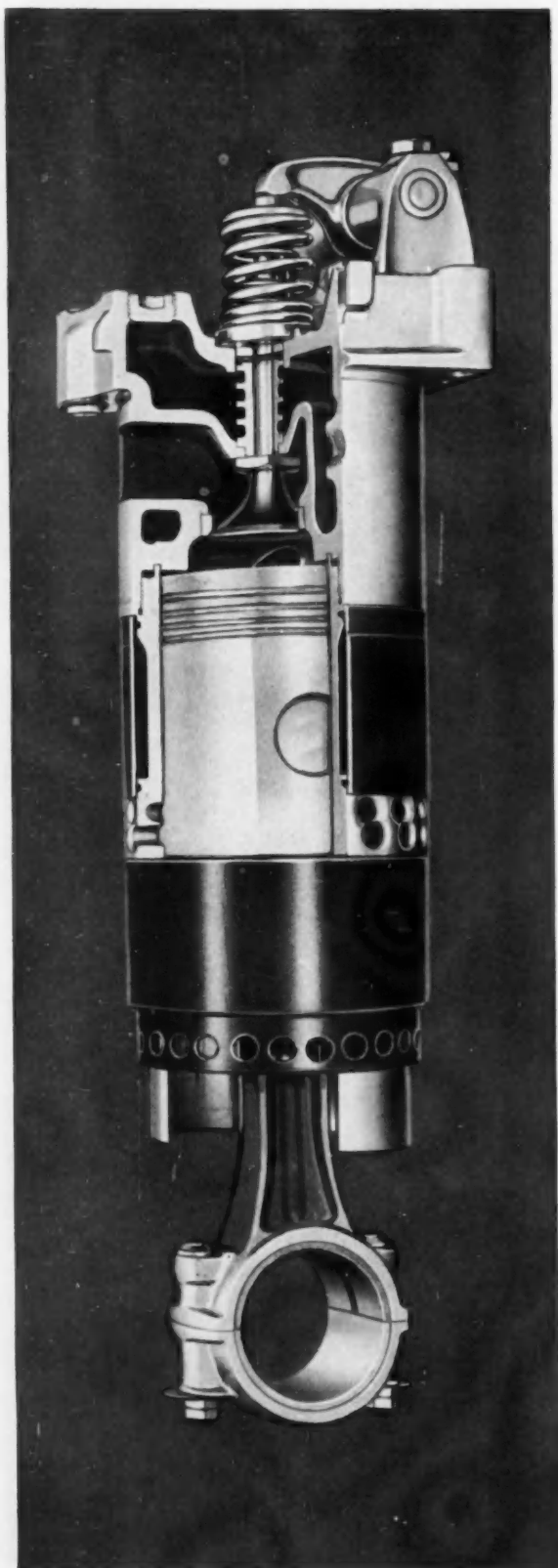
NEW deep tapered grooves . . . tapered contour effectively cleans out larger stones. More resistance to tread cracking.



NEW 3-rib tread design with broad stable center rib boosts mileage, reduces tread squirming and scuff wear.



NEW deep bladed slots up traction for life of tread. Braced design for even wear, surer steering on wet or dry curves.



for less off-the-highway time choose

P&H DIESEL POWER

Here is the diesel engine with design and engineering features that pay off in quicker, easier servicing. Check these *exclusive* features of the P&H Diesel.

- Patented "Unitized" Power Assembly combines head, liner, piston, rod and water jacket in one simple unit. After thousands of running hours, you can easily remove the complete unit—and replace it with a new one—in less than an hour. No need to even drop the pan, detach manifolds or disturb engine mounts. Overhaul time is reduced from days to a few hours.
- P&H diesels have 25% fewer parts—80% interchangeability of parts. One adjustment of the simplified P&H fuel injection system times the entire engine. Also, P&H Diesels have one large valve eliminating a multiplicity of rocker arms, bushings, springs, push rods and cams. Fewer parts mean less trouble, greater interchangeability and longer life.
- P&H offers you the lightest, most compact diesel engine available. Made of lightweight aluminum construction, P&H Diesels save up to 1000 lbs. of deadweight over engines of outdated cast iron construction. This means bigger payloads and faster trips. No other engine can give you time tested and proved aluminum construction.

Choose P&H Diesels for less off-the-highway time, bigger payloads and extra profits. Contact your P&H dealer or write for P&H Automotive Diesel Bulletin Z-42.



4 cyl. P&H Model 487H-18AT rated 220 H.P. at 1800 R.P.M. weighing only 1500 lbs. or 6.82 lbs. per B.H.P. Available in 3, 4 and 6 cyl. models to meet all of your trucking needs.

HARNISCHFEGER

Diesel Engine Division—Crystal Lake, Ill.



CHART THE COURSE TO COOL PROFITS!



*Your men will feel better, look
neater . . . produce more for you
with GM car and truck Air Conditioning!*

Salesmen are sold on the benefits of Harrison Air Conditioning in GM cars and trucks—"It's a great investment!" Over 90% of the 366 salesmen of a national concern using air-conditioned cars claimed, "I make more calls—my job performance is up—I'm more alert—feel fresher—less fatigued." You'll find healthful Harrison Air Conditioning delivers the just-right calling climate of refreshing washed air for the best business climate . . . the just-right temperature and humidity. Moreover—since dirt and grime are locked outside, your representatives' cleaner and neater appearance gives a better impression of your company. Whether you have already purchased or are about to buy your new Cadillacs, Buicks, Oldsmobiles, Pontiacs or Chevrolets*, see your GM Dealer for a demonstration of Harrison Air Conditioning—a reliable General Motors product!

*Harrison Air Conditioning is also available on most 1961 Chevrolet trucks.

SEE YOUR GENERAL MOTORS DEALER FOR AN AIR-CONDITIONED DEMONSTRATION

GM cool air by the carload
HARRISON
AUTOMOTIVE AIR CONDITIONING

• COMPRESSOR BY FRIGIDAIRE

HARRISON RADIATOR DIVISION, GENERAL MOTORS CORPORATION, LOCKPORT, NEW YORK
AUTOMOTIVE RADIATORS • OIL COOLERS • THERMOSTATS • AIR CONDITIONERS • HEATERS • DEFROSTERS

COMMERCIAL CAR JOURNAL, August, 1961

More details? Circle 142 on reply card inside back cover

65



Oscar F. Klaburner (left), fleet manager for the National Brewing Company of Baltimore, Md., looks on as Dowgard Full-Fill Coolant is installed in one of the 135 trucks operated by his company. "We've not had to replace any Dowgard to date," he states, "and there has been no accumulation of rust."

"No rust, no coolant loss, lower —says fleet manager Oscar Klaburner

No boil-out during hot summer driving. Lower maintenance costs because of time saved by eliminating draining and refilling. No accumulation of rust with Dowgard® Full-Fill® Coolant.

That sums up why Oscar F. Klaburner is sold on the performance of Dowgard in the fleet he manages.

Mr. Klaburner, who won the Fleet Owner Award for Maintenance Efficiency in 1958, puts it this way: "We find Dowgard Coolant superior to permanent antifreeze for three reasons. One, we haven't had to replace any Dowgard in our trucks to date. Secondly, periodic radiator service has been reduced to a simple, routine inspection. Last, but not least, there has been no accumulation of rust."

The National Brewing Company trucks, Klaburner says, are run at about 180°F. year around to remove sludge from internal parts. During hot summer months, he states, this would cause water to boil off,



maintenance with DOWGARD!"

requiring replacement. Dowgard Coolant has eliminated this problem.

With Dowgard now installed in 25 per cent of the 135-truck fleet, Mr. Klaburner plans to make that 100 per cent as each new replacement truck is added.

Have you investigated the advantages of using Dowgard Full-Fill Coolant in your fleet? No damaging corrosion. Lower operating pressure prevents leakage. Fewer evaporation problems. Operates at higher temperatures than water without boiling. Proved in more than 20 million miles of laboratory controlled field tests. It's your best coolant investment.

IT'S COSTLY NOT TO USE DOWGARD IN YOUR FLEET

DOWGARD • THE DOW CHEMICAL COMPANY

More details? Circle 143 on reply card inside back cover



Dowgard Full-Fill Coolant now available in fleet size 55-gallon drums to help you save. \$1.41 per gallon, suggested single drum fleet price. Order now through your jobber.



HOW MOBIL CUT COSTS \$17,837 IN 1960 FOR SILVER BROTHERS COMPANY!

The Silver Brothers Company of Manchester, New Hampshire, producer of Cott Quality Beverages, operates one of the country's largest, privately owned fleets. Their 117 vehicles traveled more than 2 million miles last year. Every single year since 1954, when this company adopted the Mobil Program for Fleets, Silver Brothers has enjoyed *reduced* operating costs. These lower costs are brought about in the 5 fleet areas affected by petroleum products . . . (1) Preventive Maintenance, (2) Purchasing, Storing and Dispensing of petroleum products, (3) Correct Application, (4) Analysis of Equipment, Methods and Results and (5) Employee Effectiveness. Savings in 1960 alone totaled \$17,837 as explained.



\$4,170 *Reduction in wheel bearing failures—*Before Silver Brothers installed the Mobil Program in 1954, wheel bearing failures were common. Since then, Mobil Engineers have recommended an improved lubricant and application method which solved this costly problem, stopping road failures. The lubricant in service also eliminated the necessity for stocking two additional products, previously used in other applications. In just this one area, Silver Brothers saves \$4,170 each year.

\$13,667 *Continuing analysis of equipment, methods and results—*Periodic laboratory analyses of lubricating oil, plus systematic inspection of equipment, resulted in a series of recommendations by Mobil Engineers which affected the great majority of all vehicles in the fleet. Conservatively estimated, subsequent reductions in lubrication costs, including oil, filter replacement and labor, have amounted to \$13,667.



...and how Mobil can help you in 1961

"If one of your salesmen brought in \$400,000 worth of new business, I think you'd be more than happy, even if you were a Class I carrier. And yet the plain fact is, even that wouldn't benefit you as much as \$18,000 worth of savings achieved with the Mobil Program for Fleets. If you doubt it, figure it out yourself, using the net profit the average fleet owner makes on his revenue.

"Total profit . . . that's what's important. And our object is to help you make more total profit by *cutting the operating costs of your fleet*, just as we are doing for Silver Brothers Company.

"We work this way. In co-operation with your personnel, we set up a *continuing* program that helps you *reduce* operating costs and *increase* equipment life and availability. And we do this by working in the areas of fleet operation affected by petroleum products.

"We help you establish a simple, *effective* PM system. We give you the benefit of our experience in the purchasing, storing and dispensing of petroleum products, in the correct application of those products, and in analyses of equipment, methods and results. We also boost employee effectiveness by clinics and on-the-job training.


"The results *can* be spectacular. They're *always* worthwhile. And I remind you, every dollar Mobil *saves* you is the equivalent of many dollars of new tonnage, in terms of profit to your fleet. For more information about the Mobil Program for Fleets, contact your Mobil Representative, or write me, at the Mobil Oil Company, 150 East 42nd Street, New York 17, N. Y."

J. V. Sadler MANAGER, FLEET SALES




PROGRAM FOR FLEETS

More details? Circle 144 on reply card inside back cover



2,321 hrs. *Increased vehicle availability*—As a result of improved lubrication practices and good preventive maintenance, Silver Brothers vehicles were available for service an additional 2,321 hours in the past year.

Employee Effectiveness—At Silver Brothers Company, the Mobil Program for Fleets provides clinics and on-the-job training to help the company's employees upgrade their skills and operate more efficiently. Pictured here, Mobil Engineer Dan Googins and maintenance personnel in recent shop clinic.



WHEN MOTOR OIL FLOWS THROUGH THIS NEW FRAM "WEAR-GUARD" OIL FILTER



UP TO 40% MORE ENGINE-KILLING SLUDGE IS TRAPPED!

Tests using radioactive tracer techniques proved it! An exclusive scientific breakthrough in the construction of new Fram "Wear-Guard" Oil Filters traps up to 40% more sludge than any other filter tested. Why not let Fram's exclusive Fleet Survey System give your vehicles this new protection with a minimum of inventory. For details, phone or write:

FRAM
"WEAR-GUARD" FILTERS

Fram Corporation, Providence 16, R.I.

Compare the extra siping **ARMSTRONG** gives you —far more than any other leading make!

When one of your vehicles gets stuck or skids off the road, the expense should properly be charged to tire failure — to lack of *grip*. As charts below show, only Armstrong gives you the safety siping that adds the grip that cuts accidents. And siping also means greater flexibility, less heat build-up, more mileage. Get the facts and compare prices on the industry's most advanced truck tires!

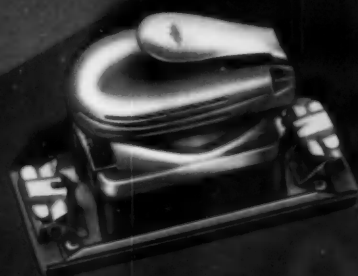
Armstrong Rubber Company, Home Office, West Haven, Connecticut.

Armstrong Deep Molded Sipes go almost the full tread depth, add grip for thousands of miles. Charts based on length times depth of siping.





Persuasive...



SIoux

HIGH SPEED H. D. SANDERS

Here's sanding muscle you can depend on. The SIoux 1250 9" and the 1267 7" are powerful portable sanders that operate with cost cutting speed and ease. Heat treated gears, and permanently lubricated bearings help assure a long, trouble-free life even under punishing use.

SIoux

FLAT ORBITAL SANDERS

The 501 is an air driven sander with an exclusive remote exhaust system which carries exhausting air and lubricant away from the work. The 1250 is an electric sander which quickly produces fine finishes on any surface where hand sanding might be employed.

USE **SIoux**



...with **ABRASIVE!**

SIoux

SLOW SPEED FEATHER EDGER

The 1255 is a light sander with a speed of 1400 R.P.M. for feather edging.

SIoux

ABRASIVE DISCS

...cut fast, run cool! Chosen from industrial, heavy fibre; Regular, standard fibre; Open Coat, heavy fibre; Grind-A-Lite, the latest light fibre disc.

SIoux

Ask for Catalog No. 61

ALBERTSON & CO., INC.

Sioux City, Iowa, U.S.A.

Canadian Warehouse: 379 Centre Street
Scarborough, Toronto, Ont.

SOLD THROUGH DISTRIBUTORS IN U.S., CANADA AND OVERSEAS AND YOUR DEALER'S DISTRIBUTION ORDER "TICKET PLACING" IN THE YELLOW PAGES.

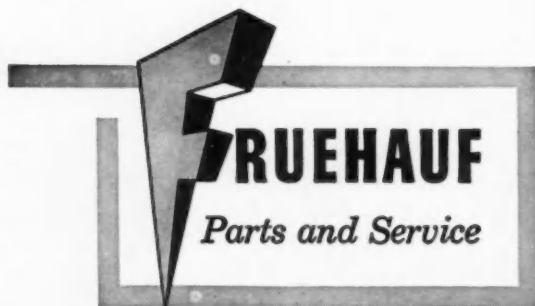
AIR & ELECTRIC IMPACT WRENCHES & BOLLS
SCREWDRIVERS & NUT DRIVERS & SAW BLADES
GRINDERS & EXACTING POLYMER & FIBRE
SHAFTS & PORTABLE SAND & GRINDING
MACHINES & ABRASIVE DISCS.

....all the way through!

ONLY FRUEHAUF

Has Complete One-Stop Service Facilities

COAST-TO-COAST!



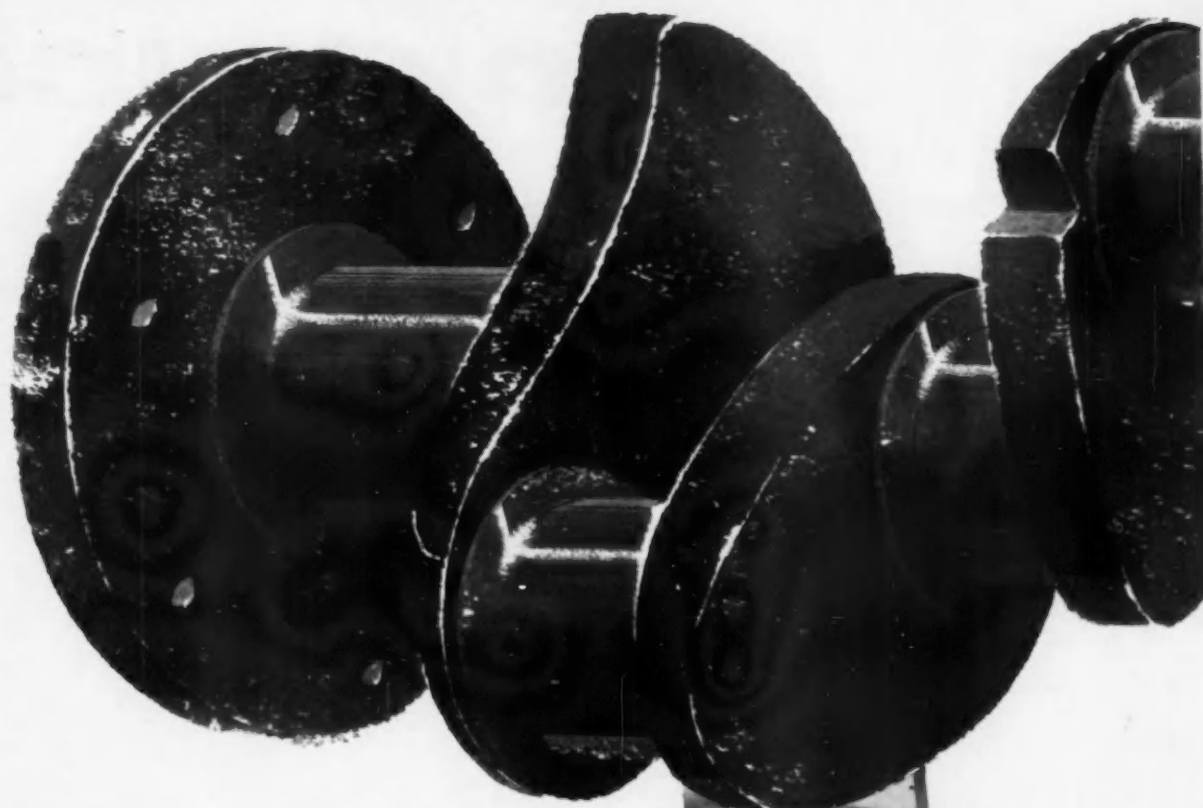
The *Only* Trailer Manufacturer With
Truly Nationwide Service!

FRUEHAUF TRAILER COMPANY
10940 HARPER AVENUE • DETROIT 32, MICHIGAN

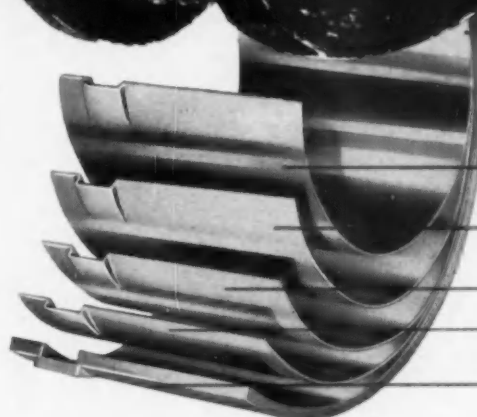
Only Fruehauf has *truly* nationwide service facilities coast-to-coast. And only your Fruehauf Branch can provide you with inspection and maintenance services tailored to your personal requirements! Over 70 Fruehauf Branches are strategically located to give your vehicles immediate attention. At *all* Fruehauf Branches you get these *positive service advantages*:

- ★ **COMPLETE ONE-STOP SERVICE**, low-cost parts replacement.
- ★ **YEAR-ROUND PREVENTIVE MAINTENANCE PLAN** for your fleet on a regular prearranged basis to assure I.C.C. compliance.
- ★ **BRAKE SERVICE EXPERTS** at every Fruehauf Branch ready to handle your braking problems on Trailers, tractors and straight trucks.

- ★ **PROFESSIONAL AWAY-FROM-HOME SERVICE** and emergency repair work at any Fruehauf Branch, with charges handled through your control branch.
- ★ **UNIFORMLY HIGH QUALITY, FACTORY-CALIBER SERVICE** performed by factory-trained mechanics and technicians.
- ★ **COMPLETE PAINTING FACILITIES** with your choice of air dry or baked finish for long lasting good appearance.
- ★ **EXPERT WELDING SERVICE** for repair of any type equipment.
- ★ **CLEANING, BRIGHTENING AND PROTECTING PROGRAM**—only one of its kind in the industry for aluminum, painted, stainless surfaces.
- ★ **STEAM CLEANING OR SAND BLASTING** for all Trailers, trucks, and tractors.
- ★ **FRUEHAUF CREDIT PLAN** for all major repair operations.
- ★ **PLUS**—lengthening, insulating, undercoating, lubricating, etc.



FIVE LAYERS TOUGH



1. Tin flash plate—protects bearings from oxidation and rust
2. Lead-tin overplate—conforms to shaft during break-in
3. Barrier plate—stabilizes overplate
4. Copper-alloy lining—for high load capacity
5. Steel back—gives strong bearing support

When you put your equipment to work, loads on connecting rod and crankshaft bearings build up to 1,000, 2,000, 4,000 and more pounds per square inch. Engine bearings must be rugged enough to stand up under these two-ton pressures.

Federal-Mogul developed and built the 5-layer, heavy-duty replacement bearing for just this kind of service. It will take continuous loads up to 4,800 psi... triple the load limit of the best babbitts. Five separate layers give you high

fatigue strength for high horsepower engines plus the good "conformability" that's necessary for new bearings to adjust to the crankshaft during break-in.

The complete Federal-Mogul line also includes overplated aluminum-alloy, straight copper-alloy and babbitt bearings. Each is designed for a particular type of engine and gives maximum service in it. When you need replacement bearings, get Federal-Mogul... and you'll get the best.



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DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC. • DETROIT 13, MICHIGAN

hot tip for truck



AC SPARK PLUG  THE ELECTRONICS DIVISION OF GENERAL MOTORS

MAINTENANCE



Join the thousands of fleet maintenance men who get more power between established maintenance checks by installing AC Fire-Ring Spark Plugs. Their records support AC's truck-tough design that assures longer-lasting full power return from every truck engine. Set your sights on reduced operating costs! Be sure your maintenance procedures include a new set of ACs. They assure you constant power throughout the thousands of payload miles between checks.

LIGHT-DUTY APPLICATIONS

Install ACs to gain exclusive Hot Tip action that heats faster—to stay clean longer—to prolong power even under extreme stop-and-go conditions.

HEAVY-DUTY APPLICATIONS

Install ACs to gain superior sealing qualities—for sustained long-haul efficiency. Get extra miles of spark plug reliability from AC's massive electrodes.

IN ALL APPLICATIONS

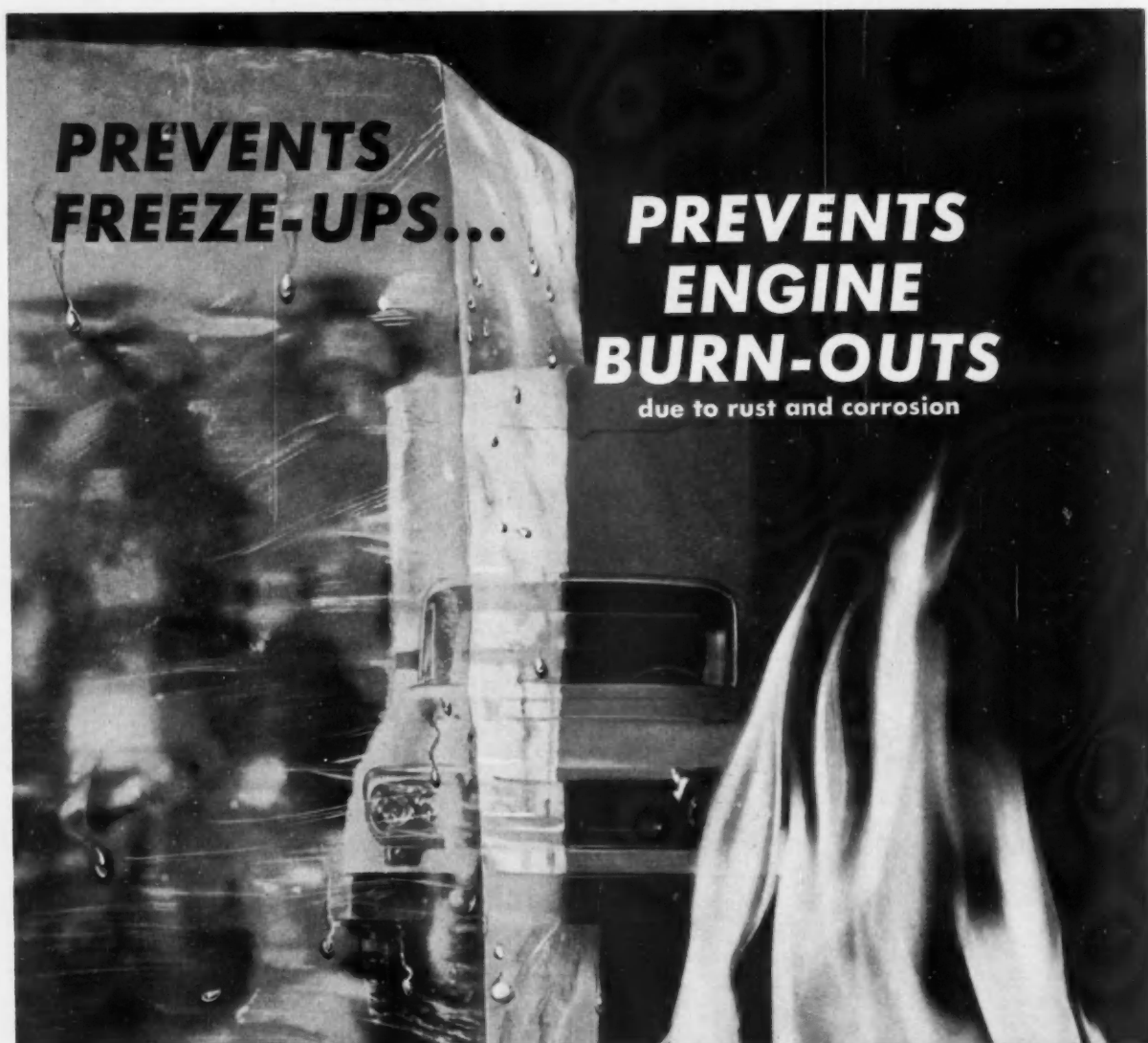
Install ACs to gain exclusive features designed to meet each truck engine's exact power requirements. Select from the industry's most complete spark plug line. Select AC Fire-Ring Spark Plugs!



FIRE-RING
SPARK PLUGS

▷ ▷ ▷ ▷ ▷ ▷ ▷ POWER ACHIEVERS FOR THE TRUCKING INDUSTRY

INSTALL THE BEST... "PRESTONE" ANTI-FREEZE



**PREVENTS
FREEZE-UPS...**

**PREVENTS
ENGINE
BURN-OUTS**
due to rust and corrosion

Insist on "**PRESTONE**" ANTI-FREEZE for all your fleet vehicles... Best way to hold down winter service costs.

- Exclusive Magnetic Film coats your entire cooling system.
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- Protects all metals including aluminum. Will not foam or boil.

The world's most tested, most trusted anti-freeze!

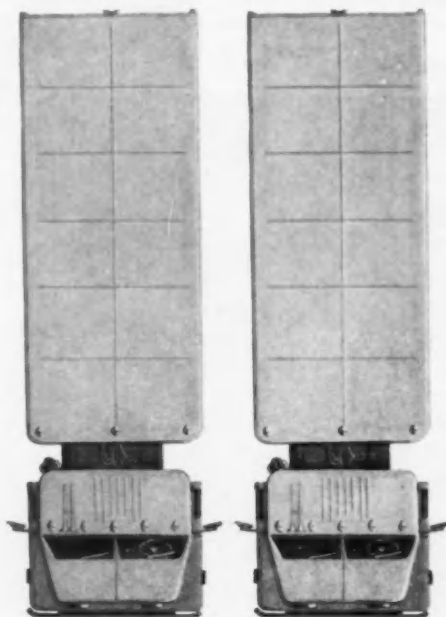
ORDER NOW
Fleet-size
54 gallon
agitator drum



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THE 1961 FLEET MAINTENANCE EXPOSITION

TAILORED FOR
AN AUDIENCE OF AMERICA'S
TOP FLEET EXECUTIVES



**NEW YORK COLISEUM
OCTOBER 23-26, 1961**

Under One Roof—At One Time— A Million Dollars Worth Of Fleet Management Ideas

The 1961 Fleet Maintenance Exposition and Conference has been tailor-built for you—the man who manages and operates a motor fleet. Here, you'll find the new products, services and ideas that keep your fleets rolling. Here you'll talk face to face with the engineers and executives of America's top fleet-supplier companies. And here, under one roof, you can examine and compare the new products and services that can help your fleet run more efficiently. You'll find profit, too, in the Workshop Seminars that run concurrently with the Exposition. Keep abreast of your competitors in the motor fleet industry by learning new techniques to reduce your dollar-per-mile maintenance cost.

Mark your calendar now:
the dates are October 23-26.

For exhibit space, details or information on the Workshop Seminars, contact: Reber-Friel Company, Exposition Management, 117 South 17th Street, Philadelphia 3, Pennsylvania, LOcust 8-2394.

Want proof of the value of the four days you'll spend at the 1961 Fleet Maintenance Exposition? Here's what visitors to last year's Exposition said:

"I would like to say that the Fleet Maintenance Exposition was very well handled and informative."
—Pepsi-Cola Company of Canada, Ltd.

"Everything here was of interest to our needs, either directly or indirectly. A program of this type is long overdue in the fleet maintenance field. We'll return next year and bring more of our people along with us."
—Linde Co., Division of Union Carbide Corporation

"I would say that the past Exposition was a notable one, and I am looking forward to attending bigger and better ones."
—American Bakeries Company, Toastee Division

"The Fleet Maintenance Exposition impressed me as being well organized, and the various sessions worth attending. A number of our personnel will no doubt attend the second Exposition in October, 1961."
—United Parcel Service

"Excellent idea. Should be continued and expanded."
—Arco Auto Carriers

SPONSORED BY THE PRIVATE TRUCK COUNCIL OF AMERICA INC.

WIX Filters are an important part of any P.M. Program



Yard and Administration building of Overnight Transportation, Inc.—Atlanta Terminal

Right—Changing fuel filter on a Diesel



Mr. J. T. Howell, Supt. of Maintenance says, "We check each vehicle after every trip and change filters every 6,000 miles. Our drivers and lube men are our watchdogs to see that change schedules are adhered to!"

In addition to Periodic Inspection the Overnight Transportation Shop performs a complete check on each vehicle every 100,000 miles.



Overnight Transportation, Inc., Richmond, Va., is one of America's great heavy-duty fleets, covering Virginia, North and South Carolina and Georgia. Here Preventive Maintenance is more than a policy... it's a way of life. WIX Engineered Filtration has played a part for many years in the P.M. program of this famous fleet.



FREE

Simplify your filter problems with a fleet survey made by a WIX factory-trained Filter specialist. And get the facts on the new WIX Preventive Maintenance Record which tells at a glance the performance of every unit in your fleet.



WIX-PAX Service for fleets offers special advantages in price and service on top quality Oil, Air and Fuel Filters. Ask your automotive jobber or write direct.

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CCJ BULLETIN BOARD

45 states pool drivers' records

A rush of states made the July 1 starting date for the National Driver Register Service — double the number which a month earlier had agreed to cooperate.

It means fleet operators in all but nine states will be pretty positive new drivers from out-of-state have not hidden convictions for driving while intoxicated or a violation involving a traffic fatality.

National safety consulting

Drivers Safety Service, Inc., has gone national with its special consulting services. The New York City group has expanded its consultant staff to 30 to assist in driver selection, testing and training and to perform specialized traffic research service.

Among the member consultants are Donald S. Buck, a long-time

CCJ contributor; psychologist-authors Dr. John Bauer and Dr. Robert Plutchik; and Dr. Harold Rashkis, psychiatrist and contributor to the President's Conference on Traffic Safety.

Bruce concentrates on one area

D. W. Baum, Assistant General Manager and Director of Safety for Bruce Motor Freight, Des Moines, Iowa, gave CCJ Bruce's secret of cutting back-up accidents by 60 per cent.

"It was concentration on the matter," says Baum. The technique: At banquets for drivers and wives, only backing accidents were discussed. A movie on the topic was on the program. Payroll inserts and bulletin board posters also kept hitting the backing problem.

"We feel that, in too many cases, carriers will throw so much

at a driver in the usual safety meeting that any value has been lost by talking about too many things. They should concentrate on a given problem, more or less isolate activity to that problem," Baum says.

It worked for Bruce—they reduced backing accidents by 60 per cent in a few months, feel the same can be done for other particular types of accidents. Overall, last year the program helped reduce total number of Bruce accidents by 26 per cent.

Seat belt anchors for trucks

Truck makers are expected to follow the lead of auto manufacturers in installing seat belt anchors at the factory.

All trucks may eventually have them. In turn, the trend may develop for general seat belt use in trucks.

Factories are not trying to cram seat belts down your throat. They're simply trying to make it easier for the ones who want seat belts in their vehicles. (For CCJ's own look at seat belts in fleets, see page 951.)

Colors for your sun glasses

The color of your sun glasses is probably a clue to how well they're filtering out harmful light rays.

Dr. F. W. Jobe, Director of Ophthalmic Research for Bausch & Lomb Optical Co., says only two colors are recommended — neutral gray and double-gradient green. Both should be quality lenses.

The neutral gray shade was developed for the Air Force during World War II. It is the most effective of known lenses for year-round wear.

The double-gradient green lens is darker around the top and bottom.

(TURN TO PAGE 158, PLEASE)

**When he forgot the oil that dripped
His memory wasn't all that slipped!**



**PUT AN
ABSORBENT
ON IT!**



Can you FORECAST sleeve success



The cylinder sleeves or liners shown here appear to be identical. Actually they are vastly different. One will last far longer than the other.

If you picked the one on the left to last longer, you're correct. It meets the hardness requirements that Mack engineers find necessary for maximum life. This means the sleeve is hard enough to provide many thousands of miles of trouble-free life . . . that piston ring and piston scuffing will be minimized. This sleeve is a genuine Mack part.

But the "will-fit" sleeve on the right could not even be measured on the same hardness scale as the Mack liner. It is too soft. Because it is softer . . . and because it is not impregnated with a surface lubricant as is the Mack sleeve . . . this liner will wear more rapidly. It is much

more prone to ring and piston scuffing and premature failure. And the "will-fit" sleeve's life expectancy is naturally short.

Unless you can afford the expense of extensive laboratory and field tests, it's impossible to forecast the success or failure of a replacement part. You are far better off specifying genuine Mack parts. Only then can you be sure of preserving the quality you invested in originally. Sometimes you are actually improving performance since Mack is consistently improving its parts—original and replacement alike.

When it comes to service, you should make the same comparison. Mack-trained mechanics can make a big difference, too. Mack Trucks, Inc., Plainfield, New Jersey. Mack Trucks of Canada, Ltd., Toronto, Ontario.

0077

MACK FIRST NAME FOR **TRUCKS**

CCJ AT YOUR SERVICE

By Ed Shea, Technical Editor

Upkeep goes down on '62 cars

Maintenance costs on some 1962 passenger cars will be somewhat lower than on previous models. Several of the automobile makers have reported that their new cars will go 32,000 miles between lube jobs and 6000 miles between oil and filter changes. Sounds pretty good for fleet operators, considering the savings on vehicle service costs and downtime.

Eastern cuts filter service costs

On a recent jaunt through Indiana with the Mobile Office, we stopped off in Terre Haute to visit with Bob Douglas, director of maintenance for Eastern Express.

Naturally, we engaged in a bit of shop talk. And the heat that day brought up the subject of cooling systems. Bob commented that all his rigs are equipped with Perry filters. They're installed with shutoff cocks on both inlet and outlet sides which, he says, really cut cost for him on replacing lost coolant when servicing the filters.

If shutoff cocks aren't used, coolant drains out of the open filter body after the cover has been removed for servicing. This is costly, both for replacement of treated coolant lost and for the extra time it takes.

Sometimes, when there are no shutoff cocks, the serviceman will drain the cooling system, save the coolant, then replace it after the filter is serviced. This saves the treated coolant, but costs plenty in service time.

With shutoff cocks, the filter can be isolated from the system for servicing. The small amount of coolant



NO MESSY CLEANUP—Eastern's shop relocates cowl-mounted oil filters to left rear cab frame, to save draining problem

left in the filter to drain out is easily and inexpensively replaced.

The problem of draining cowl-mounted oil filters for servicing was another point touched on in our conversation with Bob. Since they're mounted over and close to the fender, draining them takes some real ingenious arrangements to keep the oil from running all over the fender from the difficult drain plug location. These take time and so does cleaning up the mess from oil that gets away. To provide a special drain arm and pan for each rig would also be costly.

At Eastern, the problem was solved by relocating these oil filter assemblies from the left side of the cowl to the left frame just behind the cab. Now the serviceman just puts a drain pan under the filter and attends to another job while it's draining.

Quick remedy for flooding

Heard from several quarters lately a simple remedy for carburetor flooding problems. Try the rubber tipped needle valve now on the market for most vehicles. The rubber-to-metal contact is a lot better than found on the older types.

Ford's aim: Skilled mechanics

Ford Motor Co. is taking a major step toward relieving the critical shortage of skilled mechanics. Paul F. Lorenz, Ford Division's parts and service manager tells CCJ:

"At present, only 750,000 of some 2-million full-time repair and maintenance men are rated as skilled. . . . The industry must do everything in its power to increase the size, skill, and productivity of its service body."

With this aim in mind, Ford began a training program last August on a test basis. Its success to date

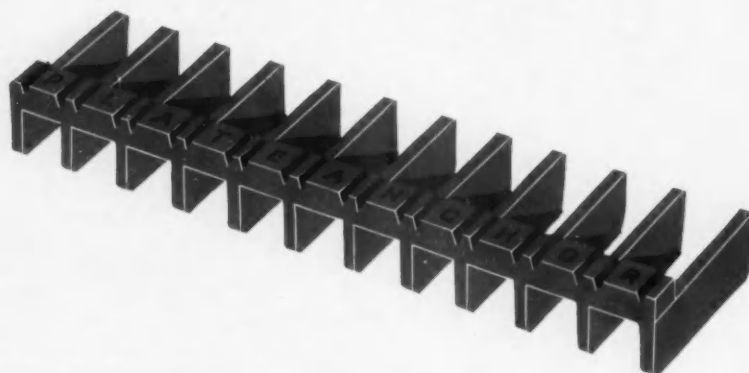
(TURN TO PAGE 154, PLEASE)



"Hey! Unhand my creeper!"



not all anchors go down to the sea!



There will be no calls of "heave ho" where the *Willard Plate Anchor* is on duty. Bet your shore leave, though, that *Willard Tractor-Commercial Batteries* with this exclusive feature will hold down battery costs on any and all vehicles riding the rough, battering seas of commercial service.

Ten sizes make up this new Willard line. There's a model for most everything from taxicab and pick-up truck to giant earthmover. All include the comb-shaped anchor of red plastic that firmly but not rigidly locks plates in place, guarding against the damaging effects of vibration. Proved in actual use, this single feature has been credited by users everywhere for doubling and tripling normal battery life.

Enough? Not for Willard! This year, there's another

extra, without extra cost. It's *Formula 57*, introduced in an unusual new method of production which turns out plates that keep chemically active far beyond usual service, even when severe undercharge conditions are encountered. *Formula 57* combats sulfation which is so deadly to battery efficiency, gives Willard batteries still longer service life.

To beat vibration and sulfation, to save a large part of your fleet operating budget that might go for battery replacements, it's only necessary to standardize now on Willards. And, for still greater convenience, there's the Willard Direct Billing Fleet Plan which gives local availability, factory billing, guaranteed prices and operating cost. *Willard Storage Battery Division, The Electric Storage Battery Company, Cleveland 1, Ohio.*



Willard

**THE ONLY BATTERY WITH
PLATE ANCHOR AND FORMULA 57**

IDEAS TO TRY

LAUGH IT OFF

By Ted Pollock

Reefer Driver: "My darling, let me feast my eyes upon your lovely face and I'll buy you a sable muff. Let me hold your hand and I'll give you a fox scarf. Let me kiss you and I'll get you a mink cape. Let me. . ."
Gorgeous Gal: "STOP! That's fur enough!"

Two window washers were making their usual rounds of windows at the Fleety Fleet Motor Express Terminal. As they were working, the following conversation took place:

First Window Washer: "Hey, isn't this the terminal manager's office we're working on?"

Second Ditto: "Yeah, why?"

First Window Washer: "Just look in there. That guy's married to a real swell gal . . . and there he is kissing his secretary! Let's go in after the big bum!"

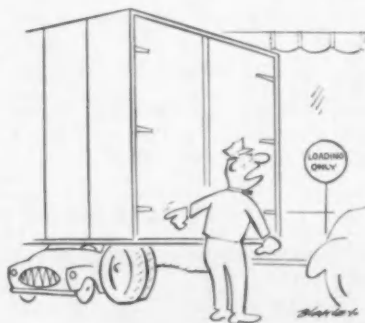
Second Ditto: "Sure, why not? How soon do you think he'll leave?"

Maintenance Steno (in 'phone booth): "Hello . . . Doctor? Did I leave a lace petticoat in your office after my examination?"

Doctor: "I haven't seen it, Miss Johnson."

Steno: "Oh, dear, I must have left it at the dentist's!"

"Cici Jay"



"Hey! Lady!"

COMMERCIAL CAR JOURNAL, August, 1961

A check can embarrass you

when it's made out incorrectly, yet few people know the answer to these important questions:

Q. If the date is missing on a check to be deposited, should the payee fill it in?

A. *The law allows you to do this and probably it would be wise to enter the current date.*

Q. Is a check valid when written with a pencil?

A. *It is legal, but—it is also more easily altered. Always use ink.*

Q. Is a check valid if dated on a Sunday or a holiday?

A. *Yes. Always use the date of the day on which you write the check.*

Q. If the amount in figures does not agree with the amount in writing on a check you receive, what should you do with it?

A. *You should return it to the person who gave you the check with a request that a new check be issued, properly made out. It is not wise to try to cash it with that discrepancy on the face.*

Practice bad habits to break them!

Finger drumming, chain smoking, knuckle cracking—are just a few of the many habits that can annoy others, harm your "public relations." Most of us would confess to at least one bad habit that we would like to get rid of—usually "tomorrow."

But why wait?

There is a little-known way to break a habit that appears to work for the vast majority of people. It may work for you. Discovered by psychologist Knight Dunlap and dubbed the Theory of Negative Practice, it is simply this: *perform the bad habit consciously.*

He experimented on himself first. He had long had the annoying habit of typing *hte* for *the* when striking his typewriter keys rapidly. In order to rid himself of the habit, he purposely typed *hte* several hundred times, all the while telling himself that *he would not do it that way in the future.* And it worked! He never made that mistake again. Further experiments—on people who stammered—confirmed his theory.

Suppose you become aware that you have a habit of tapping your foot when socially uneasy. When you're alone, according to the theory, tap your foot while telling yourself, "I'm tapping my foot. I do it because I'm nervous and it shows everyone that I'm nervous. It's a pointless thing to do and I'm going to stop it."

Note: Tests show that 15 minutes of practice twice a day for several weeks produce best results.

Can you really see the other fellow's point of view?

Here's a simple test to help you exercise your "tolerance muscle." In the following space, jot down an idea that you believe in deeply:

Got it? Now write out three arguments *against* it:

1.

2.

3.

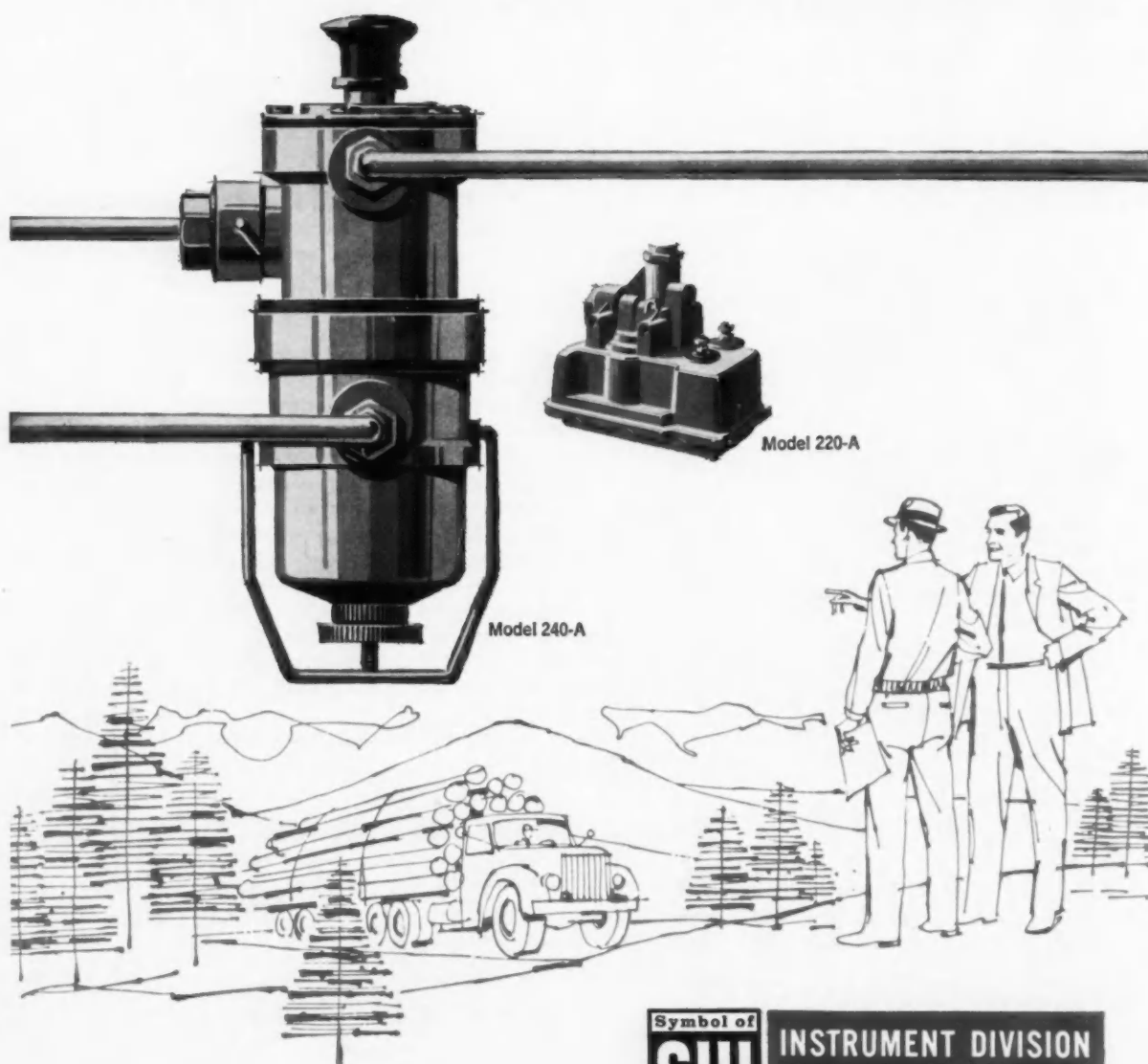
Rugged Stewart-Warner Electric Fuel Pumps operate independently of the engine. In severest winter weather they feed fuel swiftly and smoothly, assuring quick starts. On scorching summer days they eliminate vapor lock by forcing vapor from the fuel line so there's no chance of engine stalling or stopping. In any weather they give you smooth, even engine operation.

The precision-made Model 240-A features an automatic pressure regulator so there's no flooding, no surging. It automatically maintains desired pressure at carburetor from 1 psi to 8 psi and delivers up to 60

gallons per hour. A built-in fuel filter traps impurities and the entire unit is designed for easy field service by your own personnel.

The popular Model 220 is ideal where delivery requirements do not exceed 20 gallons per hour and pressure requirements are not critical. Efficient, dependable, trouble-free. Stewart-Warner Electric Fuel Pumps are available for 6 and 12 volt systems, for any gasoline engine. Contact your local Stewart-Warner supplier for additional information . . . and the correct Stewart-Warner Electric Fuel Pump for your needs.

For quicker starts...super performance
STEWART-WARNER ELECTRIC FUEL PUMPS!



Dept. U-81, 1840 Diversey Parkway, Chicago 14, Illinois



INSTRUMENT DIVISION
STEWART-WARNER
CORPORATION

COMING EVENTS

DATES AND DOINGS

AUGUST

- 25-26—Motor Transport Assn. of Connecticut, Annual Convention, Hotel Griswold, Groton, Conn.
25-27—Minnesota Motor Transport Assn., Annual Convention, Grand View Lodge, Brainerd, Minn.

SEPTEMBER

- 6-8—Annual Cargo Handling Exposition, Pier Nine, New York City.
7-8—Central Freight Claim Conference, Terre Haute, Ind.
7-9—Idaho Motor Transport Assn., Annual Convention, Sun Valley, Idaho.
8—Iowa Motor Truck Assn., Annual Convention, Hotel Roosevelt, Cedar Rapids, Iowa.
11-12—Wisconsin Motor Carrier Assn., Annual Meeting, Lake Lawn, Wis.
11-15—Society of Automotive Engineers, National Powerplant Meeting, Milwaukee, Wis.
11-15—Society of Automotive Engineers, National Production Meeting Forum & Engineering Display, Milwaukee Auditorium, Milwaukee, Wis.
14-16—Indiana Motor Trucking Assn., Annual Convention, French Lick-Sheraton Hotel, French Lick, Ind.
14-16—Pennsylvania Motor Truck Assn., Fall Meeting, Bedford Springs Hotel, Bedford, Pa.

- 14-17—Assn. of Diesel Specialists, Annual Convention & Exhibit, Hotel Leamington, Minneapolis, Minn.
17-20—Associated Traffic Clubs of America, Annual Convention, Benjamin Franklin Hotel, Philadelphia.

MAJOR DATES FOR FALL

- Sept. 11-15—Society of Automotive Engineers, National Transportation Meeting, Milwaukee Auditorium, Milwaukee, Wis.
Sept. 20-22—National Assn. of Motor Bus Owners, Annual Convention, Drake Hotel, Chicago.
Oct. 1-5—Truck Body & Equipment Assn., Annual Convention, Sherman Hotel, Chicago.
Oct. 8-13—American Trucking Assns., Annual Convention, Statler and Mayflower Hotels, Washington, D. C.
Oct. 16-19—American Transit Assn., Annual Meeting, Adolphus Hotel, Dallas, Texas.
Oct. 16-20—National Safety Congress of the National Safety Council, Annual Meeting, La Salle Hotel, Chicago.
Oct. 23-25—Fleet Maintenance Exposition, Private Truck Council, Coliseum, New York City.

- 17-20—National Defense Transportation Assn., Annual Meeting, Denver-Hilton Hotel, Denver, Colo.
25-27—Trucking Industrial Relations, National Forum, Hilton Inn, Atlanta, Ga.
28-29—Kansas Motor Carriers' Assn., Annual Convention, Broadview Hotel, Wichita, Kan.

OCTOBER

- 1-5—School Bus Body Manufacturers Assn., Annual Convention & Exhibit, Hotel Sherman, Chicago.
5-7—Oregon Trucking Assn., Annual Convention, Gearhart Hotel, Gearhart, Ore.
5-7—Regular Common Carriers Conference, Board of Governors Meeting, Statler-Hilton Hotel, Washington, D. C.
9-10—Regular Common Carrier Conference, Annual Meeting, Statler-Hilton Hotel, Washington, D. C.
10-11—American Automobile Assn., Annual Meeting, Seattle, Wash.
14—District of Columbia Trucking Assn., Annual Meeting, Washington, D. C.
18-19—Northeastern Bus Traffic Assn., New England Bus Assn., Inter-city Bus Assn. of New York City, Annual Joint Convention, Hotel Piccadilly, New York City.
18-22—Transportation Assn. of America, Annual Convention, Ponte Vedra, Fla.

FLEET TRAINING COURSES

For addresses of sponsoring colleges, see page 308 of the November issue

DRIVER TRAINING

North Carolina State College (4-week courses)—Sept. 4-29; Oct. 2-27; Oct. 30-Nov. 24; Nov. 27-Dec. 22.

DRIVER TRAINER

Penn State University—Oct. 2-6.

FLEET OPERATION

University of Connecticut—Oct. 2-Dec. 4.

FLEET SUPERVISOR

Penn State University—Sept. 11-15.
Ontario Safety League—(Toronto)—Sept. 18-22.

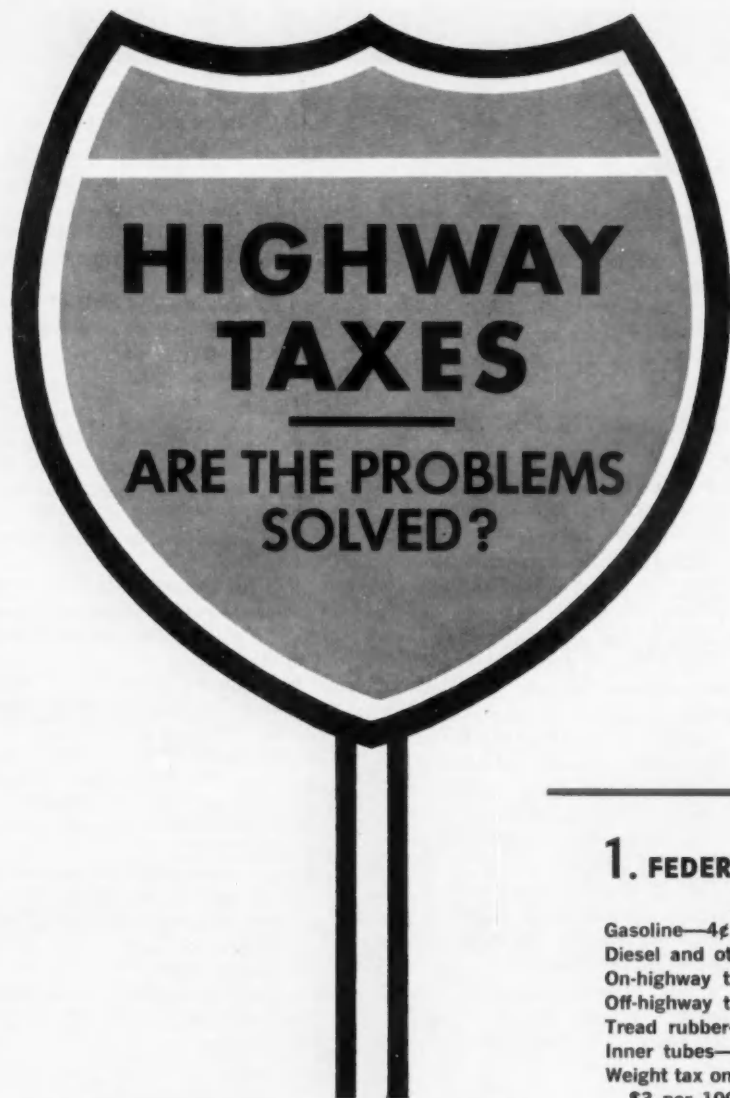
ACCIDENT INVESTIGATION

Northwestern University—Oct. 23-Nov. 10.

TANK TRUCK OPERATION

Purdue University—Sept. 18-21.

**FEATURE
SECTION
FOLLOWS**



Continuing CCJ's exclusive yearly reports to fleetmen on how the highway program shapes up, here are the facts at the end of the first five years . . .

Congress continues to stick users with 100 per cent of highway costs. The ball now passes to the states. What will they do?

1. FEDERAL HIGHWAY USE TAXES

Gasoline—4¢ per gal
Diesel and other "special" fuels—4¢ per gal
On-highway tires—10¢ per lb
Off-highway tires—5¢ per lb
Tread rubber—5¢ per lb
Inner tubes—10¢ per lb
Weight tax on trucks and buses over 26,000 lb GVW—
\$3 per 1000 lb of GVW
Parts and accessories—8 per cent
Passenger cars—10 per cent
Trucks, buses and trailers—10 per cent

Except for the last three, ALL revenue from these taxes goes for highways (into the Highway Trust Fund). Out of the 10 per cent excise on trucks, buses and trailers, half goes into the Trust Fund until July 1 next year. At this time, the whole 10 per cent becomes earmarked for highways.

The Highway Trust Fund also gets half of the passenger car excise and $\frac{3}{8}$ of the parts and accessories excise until June 30, 1964, at which time all revenue from these taxes goes to General Funds.

All taxes going into the Highway Trust Fund remain in effect until Oct. 1, 1972.

WHO PAYS, how much, for what size highway, remains to be answered. Late in June, federal use taxes were boosted enough to meet federal money needs for highways. But no long range solutions were in sight to such problems as . . .

- Where will states find funds for matching federal aid?
- Where will state and local governments find money for highway maintenance and administration.
- Are highway users going to pay 100 per cent of highway costs?
- Will final results from the AASHO Road Test show trucks as paying their "fair share"?
- Will the cost savings of better highways offset the cost of having them?
- Will there be reasonable adjustments in vehicle sizes and weights?

These are the major factors that could—and perhaps should—stir up further tax debate.

Fleetmen need trucks and highways to do business. They should give as much attention to the purchase of highways as they do to vehicle selection. Why? Highways cost plenty, too.

For example, a tractor-semi rig registered in Alabama pays \$2475 a year in federal and state highway user taxes. In five years, that's \$12,375. And that was before they doubled the federal weight tax!

But when the fleetman buys highways, he has to deal with a monopoly supplier—a federal-state government combination. And there are so many "buyers" of highway services, he's hard-put to make his voice heard. But it can be done.

Locally, all it takes is getting to know who's working on highway plans. Might be that the fleetman himself should be in the act.

On the state level, his views become more effective when amplified by participation in his state truck association. The same applies to working with the several national associations when it comes to talking to Congress.

Fleetmen, still dazed by the recent increases in federal highway-use taxes (see Chart No. 1), are reminded that the highway building program still has almost 12 years to go. Plenty of time for the tax picture to get unscrambled!

For example, federal highway-use taxes on a 4-axle combination are almost \$400 a year higher today than five years ago when the highway program got under way. Chart No. 2 shows this

2. AVERAGE ANNUAL FEDERAL TAXES PER VEHICLE GOING INTO THE HIGHWAY TRUST FUND

	Today 1961	As compared to 1956	—Or to Highway Cost (210) Study Suggestions Cost Theory			
			Incre- mental	Cost Function	Differential Benefit	Ton Mile
Medium passenger car	\$30	\$25	\$31	\$25	\$31	\$22
2-axle, 4-tire truck	47	27	23	22	32	21
2-axle, 6-tire truck (up to about 20,000 lb GVW)	96	61-111	50	63-96	55-78	69-106
3-axle, semi combination (Gasoline—40,000 lb GCW)	607	404	445	802	505	949
4-axle, semi combination (Gasoline—50,000 lb GCW)	1068	684	822	1667	871	2003
4-axle, semi combination (Diesel—50,000 lb GCW)	924	571	1358	1667	871	2003
5-axle, semi combination (Diesel—62,000 lb GCW)	1616	818	1552	3006	1245	3595
5-axle train (Tractor, semi and full trailer—72,000 lb GTW)	.....	898	1340	3202	311	4101
Diesel intercity bus	.....	.....	1166	1322	809	1565

Chart shows only amounts going into Highway Trust Fund. Higher amounts for 1961 reflect not only increased taxes (see chart at left) but also less diversion of highway use taxes to General Funds.

"Incremental" tax suggestions were not included in the "210" Study. They were presented to Congress during the recent tax discussions as being based on preliminary findings of AASHO Road Test.



Continued

comparison . . . and similar data for other vehicle types.

The tax bites as recommended in the Highway Cost (210) Study are shown in the same chart. You'll notice that the question of who pays what share goes in four different directions, depending on the cost theory you start with.

The problem of putting prices on different

products from shared facilities has kept meat packers scratching their heads for years. They know how much the pig cost. But how much do you charge for the ham, bacon and the squeal?

The same applies to highways. There are passenger cars, almost as many weight classes of trucks as you want and buses. There are inter-city highway users, others who are purely local and some who are both. In addition, there are the non-user beneficiaries of better highways.

The 278-page Highway Cost Study contains a wealth of valuable data. It also demonstrates that any system of cost allocation between users contains a large measure of assumptions. This does not mean that the Cost Study and the yet-to-come AASHO Road Test results have little value. Far from it.

It does mean that the mass of complex information must be evaluated *by the trucking industry* so it can be presented in meaningful terms to legislators.

Fleet operators well remember the "Pounded to Pieces" campaign that followed the Maryland Road Test. This time not only must such be prevented, but the trucking industry must get rolling a positive program of its own.

3. FEDERAL INCOME/OUTGO

Based on the federal highway use tax revenues now going into the Highway Trust Fund, the Bureau of Public Roads expects to balance its highway financing responsibilities as follows . . .

(millions of dollars)

Fiscal Trust Fund		Disbursements			
Year	Revenue	ABC	Inter-state	Other	Total
1957	\$1,481	\$743	\$208	\$15	\$966
1958	2,044	809	675	27	1,511
1959	2,088	839	1,501	273	2,613
1960	2,535	879	1,861	200	2,940
1961	2,857	923	1,901	44	2,868
1962	3,084	902	2,139	11	3,052
1963	3,319	892	2,326	6	3,224
1964	3,409	921	2,451	6	3,378
1965	3,495	917	2,552	6	3,475
1966	3,576	926	2,645	6	3,577
1967	3,654	943	2,739	6	3,688
1968	3,731	953	2,838	5	3,796
1969	3,807	967	2,866	5	3,838
1970	3,887	972	2,901	5	3,878
1971	3,976	974	2,992	5	3,971
1972	4,070	961	3,104	5	4,070
1973	1,471	317	1,301		1,618
Total	\$52,485	\$14,838	\$37,000	\$625	\$52,463

4. TOTAL HIGHWAY SPENDING

Federal-aid money is the least of total highway spending—less than \$1 out of every \$3. As federal spending increases, so do state and local money needs—as this special estimate by CCJ shows . . .

(billions of dollars)

Where the money comes from

Calendar Year	Federal	State & Local	Total
1957	\$1.5	\$7.9	\$9.4
1958	2.5	7.8	10.3
1959	3.3	7.7	11.0
1960	3.0	7.7	10.7
1961	3.3	8.3	11.6
1962	3.1	8.0	11.1
1963	3.2	8.2	11.4
1964	3.4	8.7	12.1
1965	3.5	9.0	12.5
1966	3.6	9.3	12.9
1967	3.7	9.5	13.2
1968	3.8	9.8	13.6
1969	3.8	9.8	13.6
1970	3.9	10.0	13.9
1971	4.0	10.3	14.3
1972	4.1	10.5	14.6
Total	\$53.7	\$142.5	\$196.2

As an example of the complexity of the data—and the extremes to which it can be carried—the Incremental Cost data shown in Chart No. 2 was presented to Congress as “preliminary.” Yet the report lists 17 categories of buses, 18 categories of straight trucks and 25 categories of combinations. It then assigns highway cost responsibilities to each—under one or more of the following headings: Private, For-Hire, Private and For-Hire, State-County-Municipal, Federal-Civilian and Federal-Military.

And then it shows similar cost allocations for the same categories and headings divided between gasoline-powered and diesel-powered vehicles!

Such a mass of figures can be used to *prove almost any point*. The trucking industry must bring it into focus or continue to be the whipping boy in the search for more highway revenues.

What about the need for more taxes? Well, the Bureau of Public Roads seems to feel that present federal taxes going into the Highway Trust Fund will provide the money for federal government's share in the highway program . . . taking into account estimates of future registra-

(TURN TO PAGE 197, PLEASE)

5. WHAT HAS BEEN DONE

Five years ago—July 1, 1956, the present giant-size highway program got the green light. What actually has been done so far? Here's the record . . .

The Interstate System

(at the end of March, this year)

Open to traffic—

Adequate for 1972	5,308 miles
Needing further work	3,022
Toll roads and bridges	2,268
Total open	10,598 miles

Underway—

Construction	4,378 miles
Engineering	10,408
Total underway	14,786 miles
Yet to go—	15,229 miles
Reserve for “adjustment”—	387 miles
Total Interstate System	41,000 miles

Primary and Secondary Highways

There are 194,000 miles of Primary and 520,000 miles of Secondary highways eligible for Federal aid. Between July 1, 1956, and the end of March this year, projects involving 115,493 miles on these systems were completed.

Sizes & Weights

Next year, Congress is going to have a chance at setting size and weight limits for the Interstate Highway System. It should have been this year, but was postponed because results of the AASHO Road Test were not available.

Actually, Congress started regulating vehicle limits when it included a “size and weight freeze” in the Highway Act of 1956.

Congress could have a tiger by the tail. How can you set limits for one highway system without actually controlling them on all highways—especially those built with federal money?

Biggest voice in setting the new limits will be AASHO (American Assn. of State Highway Officials). Right now it is debating upward adjustment of its 1946 size and weight policy. It has invited comment from interested groups.

So far, American Trucking Assns., Automobile Manufacturers Assn., Truck-Trailer Manufacturers Assn., Private Truck Council of America, Rubber Manufacturers Assn., National Highway Users Conference and National Assn. of Motor Bus Owners have made recommendations.

CCJ predicts that, along with an upward adjustment in size and weight maximums, will come . . .

- In the beginning, conflict between federal and state limits.
- In the long run, considerable decrease in state “barriers.”
- Regional size and weight codes . . . and within each region, higher limits for some highways than for others.

None of the improvement can be expected without a fight. Even as late as March this year, American Automobile Assn. policy called for such limits as 12½ ft for height, 8 ft for width, single vehicle length of 35 ft and combination length of 50 ft. Weight limits would be based on a maximum of 18,000 lb on a single axle, 32,000 lb on a tandem!

STREET NO.	REFERENCE	ENGINE NO.	SE	CONTRACT NO.	NO.	DAY	MO.	YEAR	DATE
ODOMETER READING		GASOLINE	OIL	VEHICLE NUMBER	CARD SERIAL NO.				
31,647		12			104709				
1		3354			31,647 12				
F. BLACK					1 3354				
RECEIVED BY					F. BLACK				
EMPLOYEE NO.					0300				
ISSUED BY					J. WHITE				
DATE					2-23-61				

This is the report Con Ed's A. H. Arnold says gives "double the information, at half the cost, twice as

fast." Each vehicle is listed separately, as for example the red area. Detail is given in article

How to get each vehicle's cost

**"... double the information,
at half the cost,
twice as fast."**

MECHANIZED accounting is no longer the unusual in business. And today's fleet manager is quick to grasp the advantages it gives.

For example, here's how Consolidated Edison, New York City, gets *individual* vehicle costs within two weeks after the close of the month.

Says Con Ed's H. L. Verbosey, "... it represents in the greater part, an additional use of existing data and of by-product reports." In other words, most of the data is already collected. It's just a matter of having it printed-out in useable forms.

It's a cost-cutter too. Con Ed's R. H. Arnold puts it this way: "... double the information, at half the cost, twice as fast."

Sure, Con Ed's fleet is big... 1450 vehicles, from compact cars to 70-ton cranes. You may not have all the business machines it does, but you'll find ideas here for getting the most from what you do have available.

First, let's take a look at the individual vehicle cost report. The basic form and four examples are shown at right. Taking the red-tinted line, it reads this way...

- Vehicle No. 6377.
 - Owned by New York. (Depending on the code number shown—see following page, it could indicate a leased vehicle or one assigned to Con Ed holdings outside New York.)
 - Make: Mack. (Again, there's a code list—this one covering manufacturers.)
 - Purchased in 1956.
 - Rating: 14 ton. (Passenger cars, the top line for example, are listed by number of passengers.)
 - "C" for conventional transmission. (Logically, an "A" in this column means "automatic.")
 - Type is what Con Ed calls a "platform rack truck." (Again, reference to a coded list saves space. For example, the number "66" in the line directly below is a "platform stake truck.")
 - It has no mounted auxiliary equipment. (In the line below, the "11" indicates a hydraulic winch.)
 - No. 2 in this column covers the fuel tank—important to Con Ed and discussed later.
 - Original cost: \$13,095.
- So much for the first section covering the necessary vehicle identification data. The actual

ROLL NO.		EMPLOYEE NO.		NAME		TITLE		HOURLY RATE		LOC		NO. HRS		DATE		BAC. NO.		DATE	
7131		0167		1		X 8		8		X 8		8		8		8		X 40	
7131		3354		1		5		5											
7131		3354		2		3		3											
7131		3698		5		8		8											
7131		5412		1		4		4											
7131		5412		2		4		4											
7131		6388		1		3		3											
7131		6388		8		5		5											
EMPLOYEE SIGNATURE				APPROVAL SIGNATURE				TOTAL				TOTAL				TOTAL			
John Doe				T. Cruz				40				40				40			

Basically the mechanic's time card, this form also relates the vehicle and the repair. Red area shows

where Vehicle No. is entered (Part 1) and the kind of repair (Part 2) by pre-established code numbers

SUMMARY OF VEHICLE AND MOTORIZED EQUIPMENT MAINTENANCE COSTS AND PERFORMANCE STATISTICS																			
MONTH AND PERIOD ENDING <u>DEC 1960</u>																			
VEHICLE AND EQUIPMENT INFORMATION										MAINTENANCE COSTS									
VEHICLE NUMBER	VEHICLE MAKE	VEHICLE YR.	VEHICLE ON ROAD	VEHICLE TYPE	VEHICLE WEIGHT	VEHICLE CUBIC INCHES	VEHICLE H.P.	ORIGINAL COST	#	MAINTENANCE COSTS		GASOLINE USED -- GALS.		OIL USED -- QTS.		MILEAGE	SERVICE HOURS		
										AMOUNT	% OF ORIG. COST	TOTAL	PROPORTION ONLY	QUANTITY	EXCESS			TOTAL	EXCESS PER QT.
0140	9	01	58	5	A	1	2	1 875	1	10	1	83	83	18	3	2	764	1 527	170
								2		522	28	775	775	18	5	36	398	14 321	2 458
								3		898	48	2 100	2 100	19	1	62	647	40 125	5 944
3626	9	14	55	1	C	14	2	2 693	1	42	2	166	166	5	1	8	106	851	234
								2		346	13	1 059	1 059	8	3	39	225	8 758	2 242
								3		1 492	55	5 602	5 602	8	1	169	240	40 508	10 741
6377	9	53	56	14	C	64	2	13 095	1	152	1	376	376	2	5	4	231	923	248
								2		1 952	15	3 513	3 513	2	9	62	184	10 165	2 895
								3		5 694	43	13 028	13 028	9	2	186	224	41 702	11 495
6389	9	09	56	7	C	66	11	10 148	1	188	2	341	63	5	0	6	53	315	254
								2		2 589	26	3 704	940	5	0	125	38	4 702	3 105
								3		6 192	61	14 934	4 902	5	0	396	52	20 460	11 620

When vehicle comes in for refueling, right side of this card is filled out. Later data, shown in red

area, is transposed to left side of card by black-in appropriate areas to speed making punch card

cost data is shown on three lines. First line is for the month of the report. Second line covers costs for the year to date. Third line gives the cost picture for the vehicle's life to the date of the report. It's easy to read.

Taking the first line, it goes like this: For the month of Dec. 1960, the truck's maintenance costs were \$152, or 1 per cent of its original cost. (Con Ed uses this in its replacement system.) It used 376 gal of fuel, all for on-highway use, averaged 2.5 mpg per gal. (Non-highway

use is subject to a tax rebate.) During the month it used 4 qt of oil, averaged 231 miles per qt. Mileage during the period was 923 with 248 hours of service.

You'll notice Truck No. 6339 on the line below saw almost as many hours of service—254—but went only a third as many miles—315. For utility fleets, engine hours are important since the vehicle's engine powers much auxiliary equipment.

Now where does this data come from? Basi-

Vehicle costs

Continued

cally, it comes from three records that Con Ed would have to keep anyway.

The master card

First is the Master Card. This includes the data printed-out on the first section of the vehicle report. Every fleet has vehicle records and it's almost as-easy-as-not to keep them on punch cards. There's one important addition to Con Ed's Master Card. This is the fuel "Bogey."

As indicated above, with so much non-highway or power-takeoff engine use, mileage is not the best guide to PM service. So Con Ed sets up a fuel-use standard or "Bogey." When so many gallons of fuel are used by a particular vehicle, the business machines flag it into a shop for service.

Fuel and oil card

This information comes from the fuel and oil card illustrated at left on the previous pages. In addition to providing the fuel, oil and mileage facts for the vehicle cost summary, this card has several other uses—fuel and oil inventory and purchasing, vehicle PM control as described above, etc.

Data is written in when the vehicle is actually refueled. Later the data in the red-tinted area is marked onto the lefthand side of the card, as shown. The machines can read these marks and automatically punch out the data, also shown.

At the righthand top of the previous pages is the basic source for repair and PM costs. It also

serves in making up the shop payroll. Red-tinted area identifies where vehicle number is entered (Part 1) and the nature of the work (Part 2).

Numbers in the "Part 2" column are the repair code. Con Ed sets it up this way: 1—major repairs, 2—minor repairs, 3—alterations for others, 4—complete paint job, 5—body repair, 6—generator, starter and distributor, 7—flood repair, 8—accident repairs, and 9—fire repairs.

Other uses for the data collected—in addition to basic accounting and the functions covered above—include monthly repair reports, accident statistics, highway-use tax figures, vehicle replacement (see below), and charging of vehicle costs to Con Ed's various departments.

Vehicle replacement

The vehicle summary report provides a quick check on vehicles that might be due for replacement. From this report, vehicles whose maintenance costs are too high in relation to original cost, who are using too much fuel or whose oil consumption is out-of-line can be spotted.

Con Ed then makes up what it calls a "Vehicle & Equipment Status & Condition Report." It includes the data from the most current cost report . . . plus where the vehicle is being used and in what service.

Next, the records are checked to get details on the repairs made, with major repairs described (brake reline, torque converter, etc.).

The record then goes to an inspector who actually goes over the vehicle. He checks its condition, estimates what it would cost to put it back in shape. Last step is for the Supt. of Maintenance to recommend repair or replacement.

With all this data on one sheet, fleet management can reach a quick and sound decision on what to do.

Con Ed's codes as used in the vehicle cost report

(Examples only — Not all numbers are shown for each group)

OWNERSHIP

- 1 Leased—New York
- 2 Subway Co.
- 3 Staten Island
- 7 Westchester
- 8 Leased—Westchester
- 9 New York

MAKE

- 01 American Rambler
- 03 Autocar
- 04 Bay City
- 07 Biederman
- 08 Birmingham
- 09 Brockway
- 12 Cadillac
- 13 Checker
- 14 Chevrolet
- 15 Chrysler
- 18 Diamond

- 19 Dodge
- 22 English Ford
- 25 Fontaine
- 26 Ford
- 29 GMC
- 37 Imperial
- 38 International
- 45 Kentucky
- 53 Mack
- 54 Metropolitan
- 55 Milford
- 66 P & H
- 67 Packard
- 68 Plymouth
- 74 Rambler
- 75 Roger
- 78 Sterling
- 79 Studebaker
- 88 Ward LaFrance
- 90 Walter
- 91 White
- 92 Willys

TYPE OF VEHICLE

- 01 2-Door Sedans
- 02 2-Door Coupes
- 03 4-Door Sedans
- 04 Limousine
- 11 Kurbside Panel
- 13 Step Van Panel
- 16 Box Panel
- 30 Pickup Trucks
- 37 General Service Trucks
- 38 Handyman Trucks
- 52 Line Construction Trucks
- 59 Cable Splicer
- 89 Tractors
- 90 Crane Carriers
- 91 Jeeps
- 92 Wreckers
- 93 Boring Machines
- 94 Compressor Trucks
- 96 Fire Trucks
- 99 Buses

MOUNTED EQUIPMENT

- 02 Snow Plows
- 04 Hydraulic Liftgate
- 05 Hydraulic Tailgate
- 10 Gar Wood Winch
- 11 Silent Hoist Winch
- 12 Gypsy Winch
- 15 Winch & Hydraulic Pole Derrick
- 17 Hydraulic Winch
- 20 Hydraulic Derrick
- 30 Wrecking Crane
- 32 P & H Cranes
- 33 Bay City Cranes
- 34 Heavy-duty Crane with Double Boom
- 40 Bucket Loader
- 43 Earth Borer and Winch
- 44 Skylift
- 50 Air Compressors
- 54 Aerial Ladder

American and Canadian auto makers will equip all 1962 models with seat belt anchors. Quietly, most of them have been putting them on late '61's. Factory-installed anchors make it much cheaper to put in seat belts than in previous years.

American Federation of Women's Clubs is behind a nationwide seat belt drive. Their goal: A million-and-one new seat belt users by year's end. Our guess: The ladies will hit their goal.

Piles of statistics came in during research for this article. But they didn't sell CCJ Feature Editor Jim Hamilton on seat belts. It took many fleetmen—users of seat belts—to close the sale. These men proved seat belts work. They even convinced us to plan a sequel to this article for next month to outline methods they use to convince their drivers to fasten seat belts even on short trips

By Jim Hamilton, Feature Editor

My next*car will have Seat Belts...

THE BEST SALESMEN in the world sold me on seat belts. They're the fleetmen who use seat belts on company vehicles—cars, delivery trucks and over-the-road trucks.

Before I heard from them, I thought I knew all the arguments, had been appealed to in every possible fashion.

If you want a real selling job—if you're not too sure seat belts belong on your fleet vehicles—get together with men like Paul Kramos, Butler Mfg. Co.'s chief safety engineer; J. S. Chapman, safety manager of Armco Steel Corp.; W. L. Foster, safety coordinator for West Virginia Pulp & Paper Co. (Southern Woodlands); or C. A. Clark, safety consultant for General Foods.

They won't twist your arm. They just state

Chrysler Corp. is pushing seat belt use by offering them at cost, asking dealers to do the same. They also developed an electric seat belt reminder that flashes a red dashboard light until belt is fastened.

John Waspi, Allied Van Lines' safety director, is now a big seat belt booster. A few years back, he took a long observation trip in a company rig, found seat belts can reduce fatigue.



My 1956 convertible will pass the 100,000-mile mark momentarily. It's pulled utility trailers coast-to-coast, threatens daily to give up the ghost. My "next" car will probably be one of the earliest 1962 models—if I can wait that long.

From Forester John Rich, Nantahala National Forest, N.C.: No accidents since seat belts were installed in trucks—but drivers swear by them anyway. Seat belts keep the men comfortable on rough mountain roads.

Seat belts . . .

Continued

a few facts from their own fleet experiences. After enough of these facts—brother, you're sold!

Here's the whole story of how I became sold on seat belts—and believe me, I was less than lukewarm toward them before the fleet users began to talk.

First, figures

We began exploring "feature possibilities" for an article on seat belts late last Spring when it was announced that all 1962 cars will have seat belt anchors.

Our first step was a number of letters to persons in the industry who would know most about

"We know seat belts pay off. In the five-year period 1951-55 when seat belts were not in general use, there were 21 time-losing injuries to our salesmen in traffic accidents. In the 1956-61 period, when seat belts were in substantial use, there were five time-losing injuries. Of these five, none occurred in 1959 or 1960. Seat belts were used by three of the individuals hurt. One mentioned specifically he believed the seat belt prevented a more serious injury." (E. I. Du Pont de Nemours, Wilmington, Del.)

them. We asked for help in making a seat belt story as accurate and authoritative as possible.

First batch of material came in from National Safety Council's Alfred C. Finch, manager of the Motor Transport Department. He had unemotionally answered each of our questions, foresaw some we had failed to ask, and included NSC's available material on seat belt studies, stories, and a list of users.

His comments were most valuable in directing our further thinking. He said, in part . . .

- "From what I have learned from the industry, seat belts are not installed in the vehicle until the employee requests them."

- "Local operations far outnumber long-distance transportation in the list of companies using seat belts in trucks . . ."

- "It would appear to me that the long-distance driver would find more practicability to the seat belt since the in-and-out factor of fastening and unfastening the belt would not be a detriment."

Mr. Finch pointed out several times the long-range view seat belt proponents have had to adopt. Drivers will have to be educated to use them was his theme. (Certainly the trouble NSC has had in selling seat belts didn't sell me.)

For added statistical proof of seat belts' worth, we wrote for just-released studies by

"Drivers now request (seat belts) due to good experience in several accidents." (Murphy Corp.)

Automotive Crash Injury Research of Cornell University.

The Cornell group—already famous among fleetmen—has performed the only authoritative program of its type in the world. Among the materials they sent us, these facts stood out:

- The widely-quoted seat belt statistic, from a California study: *The use of seat belts reduces the incidence of major and fatal injuries by about 35 per cent. The researchers attribute the reduction mostly to the prevention of ejection from the vehicle. Seat belt wearers were injured as often as non-belt users—but the degree of injury was lower for belt wearers.*

- *Persons thrown from cars when doors open in an accident fare much worse than those who remain in the auto.* One study showed the influence of door failures: They occur in 44 per cent of accidents producing serious injuries, in 72 per cent of accidents with fatal injuries.

- *Only about 3.5 per cent of automobiles involved in accidents have seat belts, it was found in a huge California study. Even more surprising: Only one-third of the drivers who had*

"Several of our men claim (seat belts) saved their lives." (Washington National Insurance Co.)

them were wearing them when their accident occurred. Passengers were using them even less.

At this point, our thinking took a pretty radical change. Fleetmen, we knew, already had enough statistics to prove that seat belts work. And yet we did not expect wonders from the auto manufacturers' decision to install seat belt anchors at the factory. A large percentage of

**"Two accidents occurred where drivers were 'belted in,' and each was saved from serious injury."
(West Virginia Pulp & Paper Co.)**

cars on the road—and most trucks—will not have seat belts even when they're cheaper.

Most fleets already can afford them, we know. It would take a gigantic fleet to use enough seat belts to total the cost of training a single man killed in an accident (even at \$25 per vehicle for 300 units—only \$7500.)

We decided, then, to talk to fleetmen who are using seat belts. We still were not "sold." Why had seat belts been rejected by so many fleets, left unbuckled by so many drivers?

We got a varied picture of seat belt use from more than 30 fleetmen we contacted.

One fleet reported seat belts on 10 per cent of its 3000 vehicles . . . installed at the request of drivers. Others said all their vehicles have them. In still another fleet, seat belts were in four times as many trucks as automobiles.

We found CCJ does not have to "sell" seat belts. The vast majority of these men said they had been sold on seat belts by the Cornell studies (mentioned "by name" voluntarily) and the National Safety Council promotions. They also

"We feel we have saved two lives with seat belts." (Firestone Tire & Rubber Co., Fort Stockton, Texas)

credited magazine and newspaper stories, and two mentioned the American Medical Assn.'s endorsement.

Not a single one said his company had considered abandoning them. And only one reserved comment until his firm finished its study of the program.

Then we asked how they *knew* seat belts pay off. This was the moment of truth. Here's how they put it:

"We've had several serious accidents with company vehicles—no injuries."

"In several collisions, the drivers had given seat belts as the main reason why they were not killed or seriously injured."

"We have had a few collisions in which drivers were not hurt—but probably would have been without a seat belt."

"We have experienced at least three serious

accidents in which the cars were completely wrecked, but the drivers walked away with only scratches and bruises."

"Approximately 50 Air Defense Command people are alive who would probably be dead if they had not been using seat belts in their private vehicles."

That's what sold me. Again and again we were told how vehicles were involved in horrible wrecks—only to have the driver walk away from it . . . or at least survive it. The clincher: These are the men who *know* about seat belts, not the ones who dismiss them without a trial.

The dilemma did not end with "the selling of Jim Hamilton," though. There are still too many problems in the future of seat belts and their life-saving potential.

What the fleetmen told us pointed up the dual nature of the problem: First, of course, is to get seat belts in vehicles.

Second, is to get them fastened. Nearly all of the fleetmen said that was their gravest doubt in undertaking a seat belt program. But they

**"They (seat belts) have prevented at least two serious injuries."
(City of Vallejo, Cal.)**

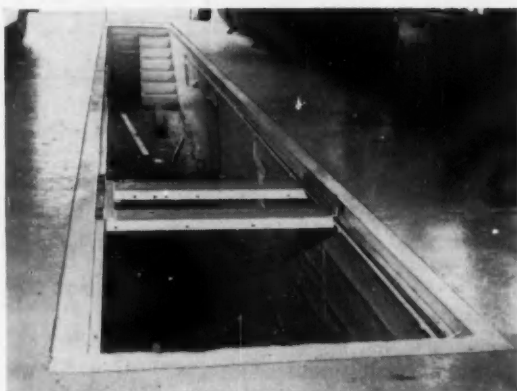
took the chance they'd be used. Their experience is now based on seat belts in more than 10,000 vehicles, with more than 10,000 drivers.

Yet on their company level, drivers are no longer statistics—they're men the fleetmen know intimately. At the same time, they are considered employees in the corporate picture.

These fleetmen had their own doubts when they went into the seat belt program—and their motives were probably varied. Yet they all arrived at one conclusion with their trial programs: *Where there have been accidents, seat belts have paid off. None considered seat belts a failure. All planned to continue installing them according to their company policies.*

Their one over-riding doubt before they installed belts was: "How do you make sure the drivers fasten them?" Some of these fleetmen still admit they have not found the answer. Others have found methods that have given good results.

This facet of seat belts was so important to these seat belt users, they convinced CCJ to present their methods next month. Maybe there'll be a clue to make seat belts work in your fleet, a plan to take "chance" out of seat belt installation.



GREASE PITS are painted once a year. Pit walls and rim are white, floor around is bright yellow. White rim guides bus, yellow serves as warning.



TWIN AIR JETS help cleanup man speed bus vacuum cleaning. He works both sides of aisle at same time, pushes dirt and paper toward intake.

Shop hints from TOPEKA TRANSPORTATION

VAT TOPEKA (Kan.) Transportation Co., Supt. of Equipment W. L. Ransdell firmly believes that cleanliness and neatness save the cost of adding one man to each shift.

The portability of the equipment illustrated, here and on the following four pages, also helps keep manpower costs down.

Ransdell has 65 buses and other vehicles in his fleet, does some but not much outside maintenance. His shop operates two shifts, employs around seven mechanics and helpers. So it makes quite a difference in his costs not to have one more man per shift.

The emphasis on cleanliness starts with Topeka's President A. S. Moore. In fact, he spot

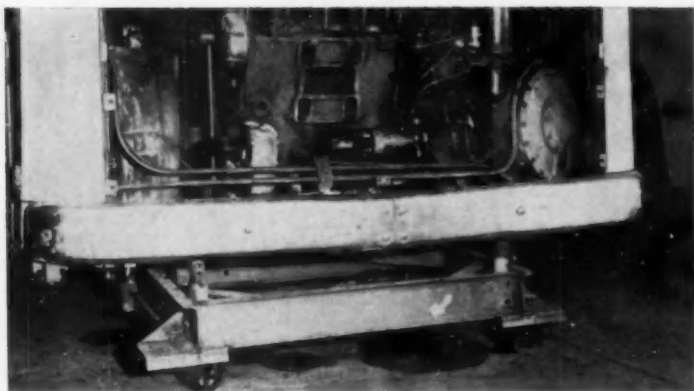
checks buses both in the shop and on the routes.

His reason is that riders deserve the same cleanliness they have in their own homes. In addition, Moore feels that having equipment clean and in good shape cuts the incentive to vandalism.

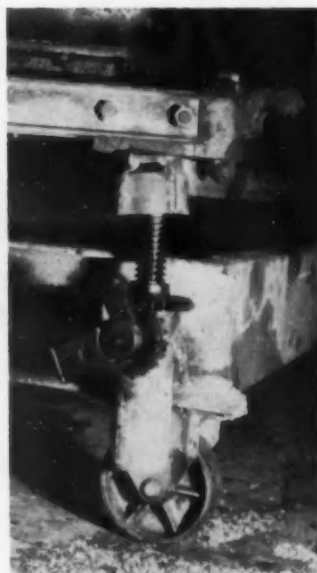
Bus painting program

There's no fixed schedule for coach painting. When inspection says it needs it, it gets it. Nor is a complete job always done. The criterion is "What's needed to make it look and smell like new?"

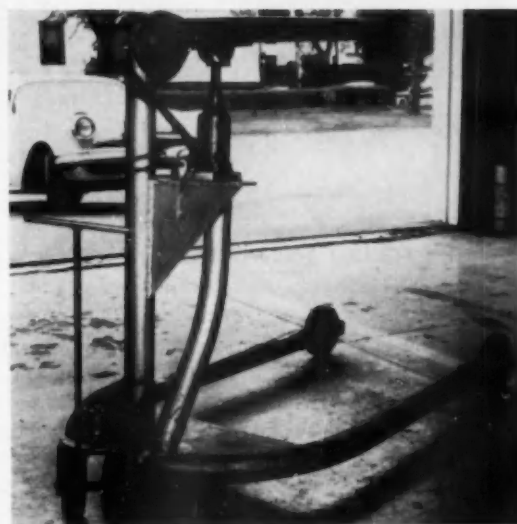
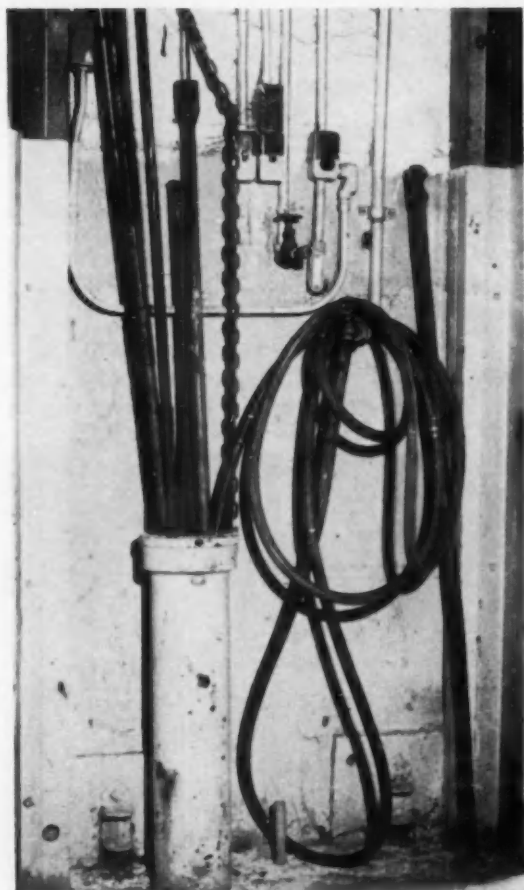
(TURN TO PAGE 100, PLEASE)



ENGINE REMOVING DOLLY has double frame with height adjustment between. On two outside corners, see above, telescoping supports with pins are raised by use of hydraulic jack based on shelf adjacent to support. On two inside corners, shown at right, simple screwjacks permit accurate positioning. Dolly is so stable engine can remain on it for needed work.



THERE'S MORE



PORTABLE ENGINE HOIST, above, has its jack mounted up high. Shelf is braced with heavy pipe curving into base. Open-end forked base gets strength from heavy plate welded to wishbone at other end. T-handle controls hydraulic release.

WATER, AIR AND ELECTRICAL connections are spotted between each door, as shown at left. It makes them convenient for work in shop or on apron outside. Cast-iron pipe sets six inches into concrete floor to give stable base for convenient crowbar rack.

Topeka Transportation

Continued



WHEEL PACKING lube and tools are kept all in one cabinet, including portable packer.

Bus interiors are painted with spackle paint, using several light colors—rose in one bus, gray in another, lime green, pale yellow, etc. Ransdell says it seems to stay clean longer. And customers like the variety enough to tell the company about it.

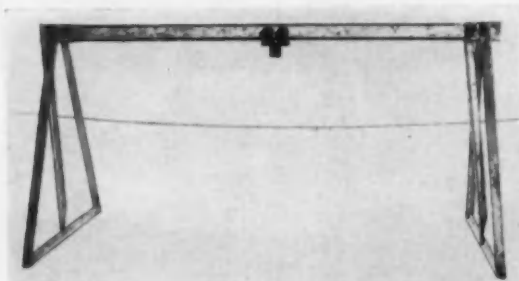
Wheel painting

Floor mats and tires are painted with black tire dressing whenever they look dull. This varies with the service and the weather. Wheels are re-painted aluminum every four months.

Cut or torn floor covering or upholstery is repaired or replaced as soon as noticed. Again, it's a matter of attracting riders . . . and not inviting further vandalism.

Ransdell's shop naturally gets the same atten-

(TURN TO PAGE 102, PLEASE)

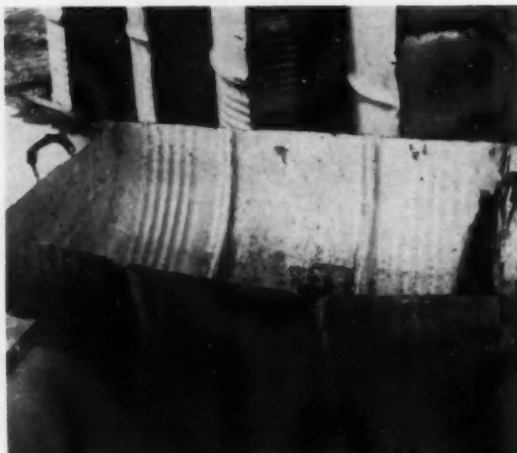


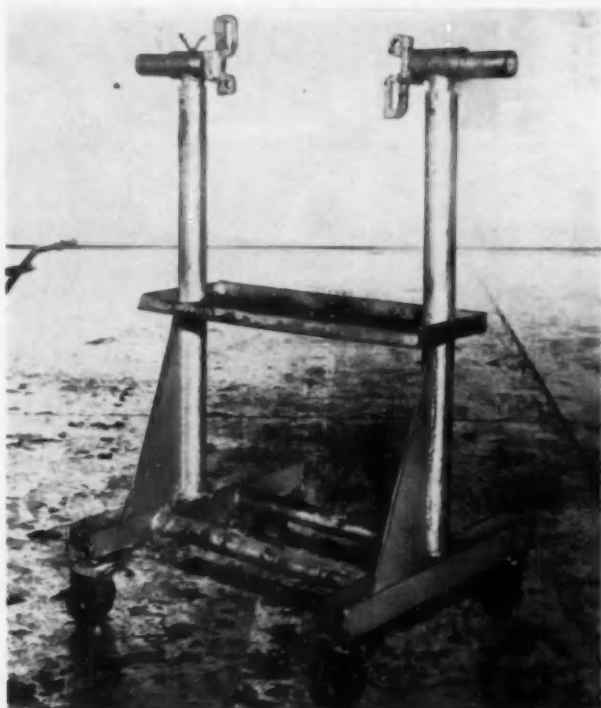
HOIST AND FRAME can be taken fully apart, erected inside bus to pull underfloor components.



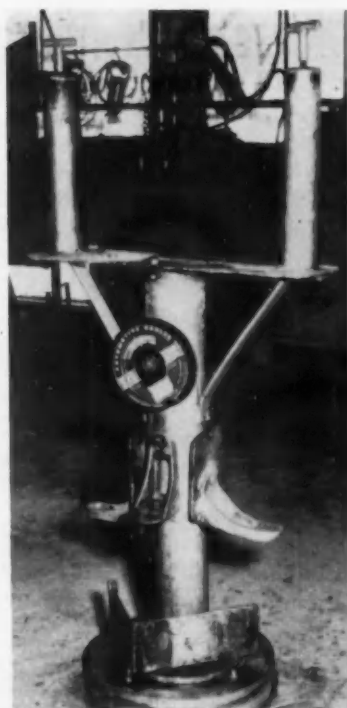
PAINT SCOOTERS speed annual painting of shop floor. It's done by sons of employees.

WASH TUBS made from old 55-gal drums are lined up, three to a side, for bus washing.





PORTABLE STANDS for small components have jigs at top that rotate a full circle, yet can be pinned in place.

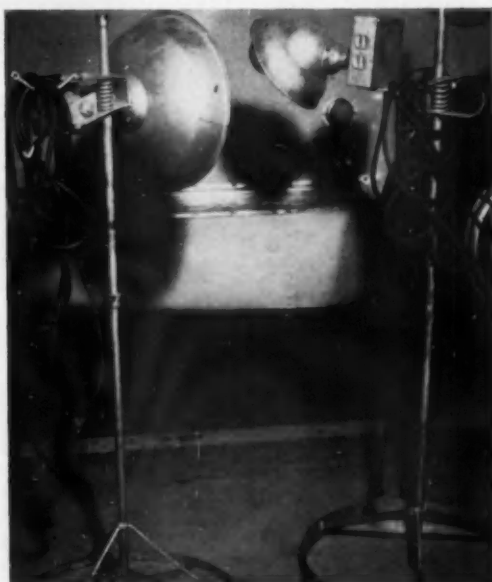


SMALLER STANDS have several adapters stored on pedestal.

THERE'S MORE

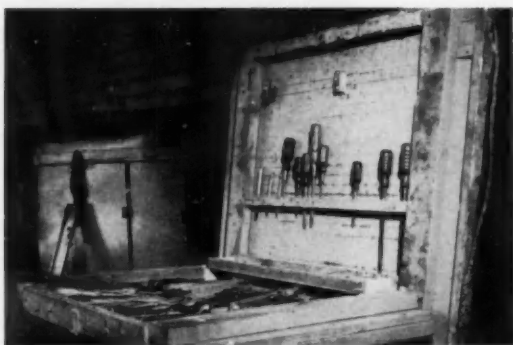


PORTABILITY is also obtained by using old washer as solvent tank, left. Lamp stands, below, have height adjustment and power outlets.

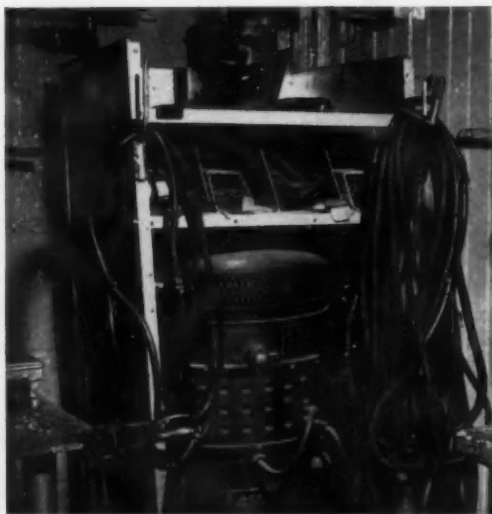


Topeka Transportation

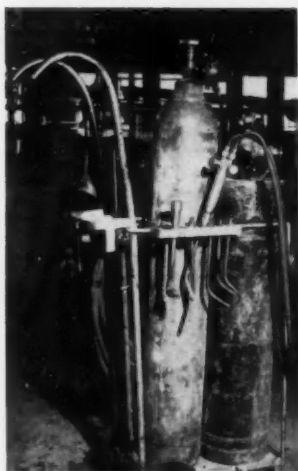
Continued



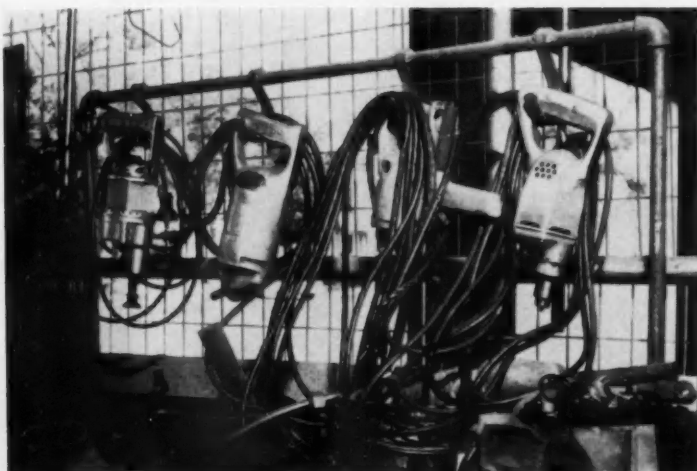
WINDOW work bench has carpeted top, hinged to provide storage for all glass-working tools.



ARC WELDER was made portable by putting it in wheeled cabinet along with needed supplies.



ONE TANK ahead of other allows work in narrow spots.



ELECTRIC DRILLS were all too often left kicking around shop or under a bus seat. Rack keeps them protected and available.

tion. The floor is kept clean. It's painted almost once a year. The rules say: Leave nothing on the floor. Parts go on work tables or work stands. In addition to wiping rags, large cloths are provided to cover components.

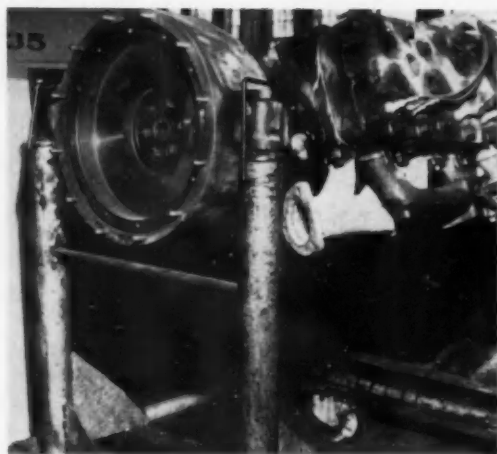
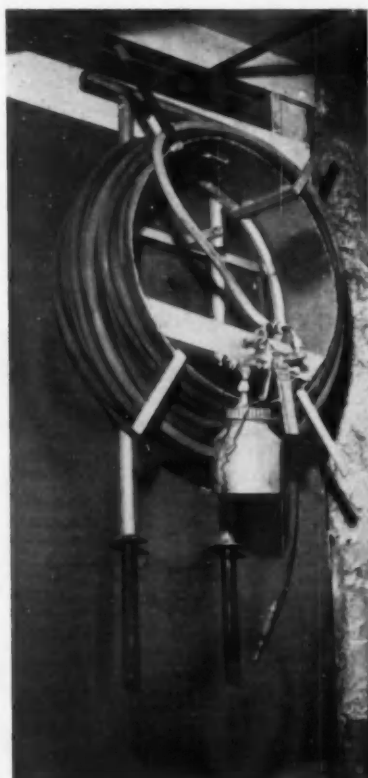
For safety, the shop uses a lot of yellow paint and reflective tape. It's easy to see when you're

moving a bus around, prevents a lot of body dinges.

Ransdell tries to be sure all posts, piers, doorways, and projections or other obstacles are painted yellow. The reflective tape is used on all door posts—in the shop and in the storage garage.

PORTABLE SPRAY GUN and hose, at right, has pipe rack that fits holes in pickup truck as needed to paint bus stops and curbs. Truck already has compressor for tire service.

CHAIN availability was boosted by hanging it on several shop posts. It never got back to chain locker before.

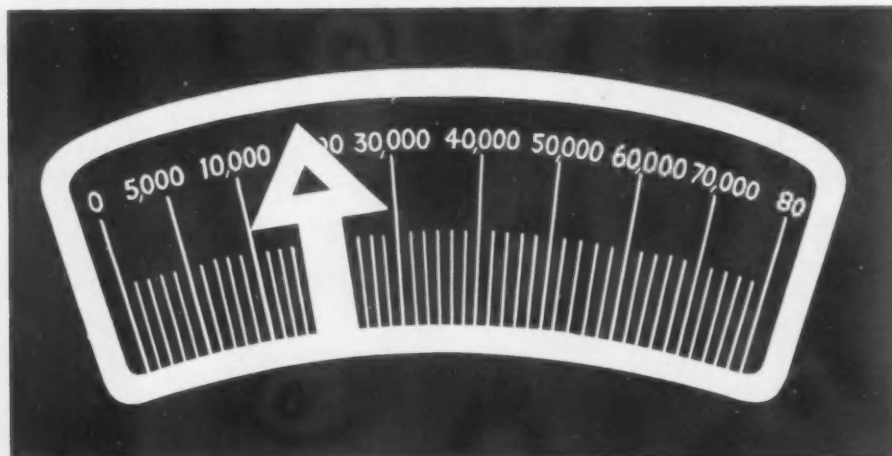


ENGINE STAND is used when underfloor engines are pulled, by letting them down into grease pit. View above shows how flywheel end mounts on stand. Photo at right shows adapter used on other end since engines vary in length. Wire bails hold engine secure in hoisting out of pit.



Getting the most from truck scales

a
fleet
manager's
guide



By Arthur Sanders, *executive secretary, Scale Manufacturers Assn., Inc.*

VINACCURATE TRUCK SCALES can cost you money . . . big money!

If they let you overload trailers, you'll be padding the state's coffers with fines.

If you're weighing "heavy," your cost per unit figures are too high.

There's probably no reason your scales shouldn't be accurate, either. Given proper maintenance and handling by trained personnel, they should last for many years.

But fleet scales have the worst record for accuracy of any commercial weighing devices, according to a number of weights and measures officials recently surveyed across the country.

For instance, 28 per cent of the truck scales tested in Michigan are condemned for repairs. Similar results are reported in Oregon: One-in-eight fleet scales are condemned. In Indiana, vehicles scales rank poorest also. One-in-six

is condemned, others require on-the-spot repairs.

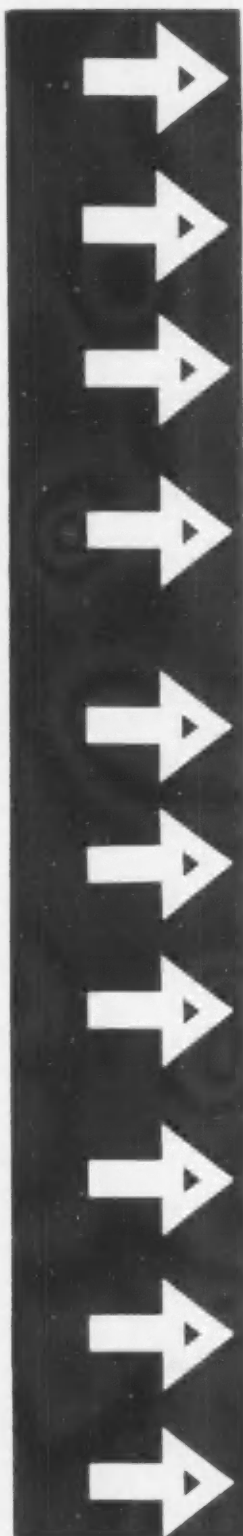
Causes of scale condemnation usually boils down to a few basic points:

- Scales are not getting the PM they need.
- They are operated by careless personnel.
- They were not properly installed.

Preventive maintenance for scales should be a snap for fleets. The manufacturer can furnish complete PM schedules. Fleet mechanics, in turn, will find them easier to care for than even the simplest vehicle.

Prime check point, of course, is water leakage in the scale pit. Keeping drains open can go a long way toward preventing major troubles. Other than that, periodic lubrication and adjustments are well within the capabilities of most fleet mechanics.

(TURN TO PAGE 170, PLEASE)



CLEAN drains in scale pits regularly. When dirt, water and other foreign matter collect there, you're in trouble.

DIVERT unnecessary traffic from scale platforms. Only trucks traveling slowly should go over scales. Driving across them at road speeds causes pivots, bearings and other parts manufactured to precise tolerances to become inaccurate.

SERVICE scales on regular PM schedules. You can get them from the manufacturer. Your mechanics are fully qualified to do the work.

TRAIN your weighman, then put him in complete charge of the scale. Make his word law when it comes to directing drivers for weighing. His care of the scale can substantially increase its expected life. And don't divide weighing duties among several men. None will feel responsible for the scale if you do.

DON'T let anyone overload your scales. That's the quickest way to have trouble with them.

INSTRUCT drivers to keep speed low when approaching scales. Driving up fast, then slamming on brakes cuts scale life.

PREVENT and control rust. Moisture in the pit helps it develop fast. Bearings and pivots should get special anti-rust attention.

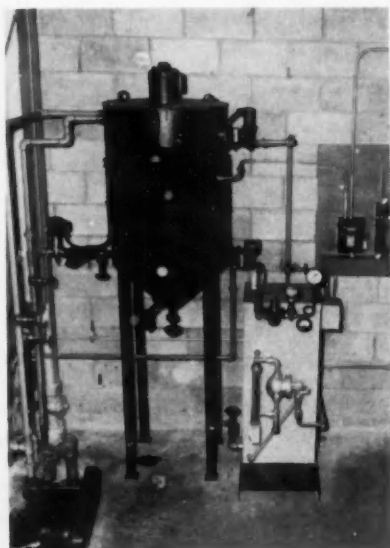
KEEP drivers either on or off scale platform throughout the weighing. Inaccurate weighing results from driver wandering onto or off the platform. It happens more often than you might think.

CHECK zero balance of scales frequently. Naturally, be sure the platform is clear when this is done.

REPLACE scales when they're too old or too worn to be accurate. It's cheaper, especially when you consider possible overload fines.



Adley's main shop is 484 ft long and 125 ft wide. Heating this huge building was very costly until the motor oil recovery program began



Sterilizer which settles out sludge and water from oil is fully automatic

Used engine oil heats shop

**Adley Express recovers waste oil
and saves \$1300 a year in heating bills**

TWO YEARS AGO, Mickey Adley, President of Adley Express Company, New Haven, Connecticut, had a brainstorm: Convert waste crankcase oil from the 800-vehicle fleet into furnace oil for heating the huge 10,200 sq ft maintenance shop (CCJ September '59, page 89).

First question was how to do it. Second was cost. It obviously had to be lower than the market price for used oil.

Adley assigned their engineer Peder Larson

to the problem. Larson hunted around for the equipment which would do the job—at the right cost. He learned what he needed was a combination sterilizer and precipitator. This unit heats used oil to lower its viscosity. Sludge, water and any other impurities then settle to the bottom. Clean oil stays on top and is pumped directly into the fuel storage tanks.

The sterilizer Adley uses was furnished by
(TURN TO PAGE 172, PLEASE)

Commercial Car Journal's

32x40	48x42	42	128 $\frac{1}{2}$	51 $\frac{1}{2}$	89 $\frac{1}{2}$	11 $\frac{1}{2}$
40x50	53x50	50	170 $\frac{1}{2}$	63 $\frac{1}{2}$	84 $\frac{1}{2}$	15 $\frac{1}{2}$
41x50	53x50	50	170	63	84	15
48x54	60x54	54	190	67 $\frac{1}{2}$	86 $\frac{1}{2}$	19
48x54	60x54	54	190	67	86	19
48x54	60x54					
48x54	60x54					
41x60	60x18	67	206	67	78 $\frac{1}{2}$	11
41x60	60x18	67	206	67	78 $\frac{1}{2}$	11
44x44	69x20	75	205 $\frac{1}{2}$	75	83 $\frac{1}{2}$	11
44x44	69x20	75	206 $\frac{1}{2}$	75	83 $\frac{1}{2}$	11
44x44	69x20					
44x44	69x24					
5-7.50/15	4-7.50/15	68	177 $\frac{1}{2}$	69	74	9 $\frac{1}{2}$
7-7.50/15	6-7.50/15	99 $\frac{1}{2}$	192	100 $\frac{1}{2}$	74	9 $\frac{1}{2}$
7-7.50/15	6-7.50/15	99 $\frac{1}{2}$	192	100 $\frac{1}{2}$	74	9 $\frac{1}{2}$

44:56	58	157	36	87	
45:50	53:50	50	173	68	87
46:54	60:54	54	195	70	93
48:54	60:54	54	195	70	93
40:50	53:50				
48:54	60:54				
48:54	60:54	54	196	72	102
48:54	60:54	54	273	72	102
44	59:20	75	258	75	80
44	59:20	75	258	75	80
7:50 15				107	80
7:00 24				107	80
				87	88
		86	224	80	121
30	30 ¹ :x36	36	90	40	50
	30 ¹ :x36	36	90	40	50

24x30	36x32	32	105	64	61
24x30	36x32	32	105	64	61
24x30	48x42	42	132	80	59
33x40	48x42	42	132	80	59
33x40	48x42	42	132	80	59
33x40	48x42	42	132	80	59
40x50	53x50	50	60	60	63
40x50	53x50	50	60	60	63
48x54	60x54	54	69	65	15
48x54	60x54	54	69	65	15
4-7-50/15	5-7-50/15	50	68	90	10
4-7-50/15	5-7-50/15	50	68	90	10
4-7-50/15	5-7-50/15	50	68	90	10
5-7-50/15	6-7-50/15	63	154	68	91
5-7-50/15	6-7-50/15	63	154	68	91
5-9-00/20	6-9-00/20	96	172	96	87
5-9-00/20	6-9-00/20	96	172	96	87

CONSTRUCTION
FLEET
MAINTENANCE



COMPILED by the Editors of CCJ

1961
OFF-HIGHWAY
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ENGINE SERVICE DATA for 1961

1961 Edition of CCJ's exclusive maintenance specifications

Line Number	ENGINE MAKE AND MODEL	Engine Type	Number of Cylinders	Bore and Stroke (In.)	Piston Displacement Cu. In.	Max. Hp. at R.P.M.	Oil Pressure at R.P.M.	Idle Speed (R.P.M.)	IGNITION							SPARK PLUG		VALVES				CYLINDERS		
									Distributor Rotation	Cam Angle (Deg.)	Point Gap (In.)	Breaker Arm Spring Tension (Oz.)	Ignition Timing	Firing Order	Timing Mark Location	Size (mm.)	Gap (In.)	Seat Angle		Tappet Clearance		Intake Opens	Maximum Allowable Taper	Maximum Allowable Out of Round
																		Intake	Exhaust	Intake	Exhaust			
Allis-Chalmers																								
1	G138	G	4	3 1/2 x 3 1/2	138.0	39-1800	20	550	CW	180	.022	17-21	258	1,2,4,3	Fly	14	.025	45	45	.013	.013	TC	.0010	.0010
2	G149	G	4	3 1/2 x 3 1/2	149.0	45-2000	15	550	CW	180	.022	17-21	258	1,2,4,3	Fly	14	.025	45	45	.013	.013	7A	.0010	.0010
3	G226	G	4	4 x 4 1/2	226.0	67-1800	15	400	CW	180	.022	17-21	258	1,2,4,3	Fly	14	.025	30	45	.013	.013	7A	.0010	.0010
4	11000	D	6	5 1/2 x 5 1/2	844.0	235-2100	45	550						1,5,3,6,2,4	Fly			45	45	.015	.015	608	.0015	.0015
5	21000	D	6	5 1/2 x 5 1/2	844.0	350-2100	45	550						1,5,3,6,2,4	Fly			45	45	.015	.015	608	.0015	.0015
6	D262	D	6	3 1/2 x 3 1/2	262.0	77-2200		550						1,5,3,6,2,4	Fly			45	45	.010	.019	10 1/8	.0015	.0015
7	D273	D	6	3 1/2 x 3 1/2	273.0	74-2200		550						1,5,3,6,2,4	Fly			45	45	.010	.019	39B	.0015	.0015
8	D344	D	4	4 1/2 x 5 1/2	344.0	88-1800	30	550						1,3,4,2	Fly			45	45	.016	.020	24B	.0010	.0010
9	11000	D	6	5 1/2 x 5 1/2	516.0	145-2200	55	1600	550					1,5,3,6,2,4	Fly			45	45	.018	.018	40B	.0015	.0015
10	11000	D	6	4 1/2 x 5 1/2	516.0	210-2200	55	1600	550					1,5,3,6,2,4	Fly			45	45	.018	.018	40B	.0015	.0015
Case																								
11	A-301	D	4	4 1/2 x 5	301.0	72-2000	45	750						1,3,4,2	CP			44	44	.025	.025			.0020
12	A-411	D	6	4 1/2 x 5	401.0	95-1600	45	750						1,5,3,6,2,4	CP			44	44	.012	.020			.0020
13	A-451	D	6	4 1/2 x 5	451.0			750						1,5,3,6,2,4	CP			44	44	.025	.025			.0020
14	A-251	G	4	4 x 5	251.0				CW		.020		TC	1,3,4,2	CP	18	.025	44	44	.012	.020			.0020
15	A-254	G	4	4 1/2 x 5	254.0				CW		.020		2A	1,3,4,2	CP	18	.025	44	44	.015	.025			.0020
16	131-C	D	4	3 1/2 x 4 1/2	188.4	42-1750	55	600						1,3,4,2	Fly			45	45	.014	.014			.0020
17	G-118B	G	4	3 1/2 x 4 1/2	188.4	42-1850	30	500	CW	42	.020		4B	1,3,4,2	Fly	18	.025	30	45	.014	.014			.0020
18	G-159	G	4	3 1/2 x 4 1/2	159.0	50-2100	17	500	CW		.020		26B	1,3,4,2	Fly	18	.025	30	45	.014	.014			.0020
19	G-148B	G	4	3 1/2 x 4 1/2	148.0	39-1750	17	500	CW		.020		26B	1,3,4,2	Fly	18	.025	30	44	.014	.014			.0020
20	A-247	D	4	4 1/2 x 5	247.0	66-2000	40	750						1,3,4,2	CP			44	44	.012	.020			.0020
21	377	LP	6	4 x 5	377.0			600	CW		.020		24B	1,5,3,6,2,4	Fly	18	.020	44	44	.015	.025			.0020
Caterpillar																								
22	D320T	D	4	4 x 5	251.0	105-2400	10-550	550								14	.031	30	30	.015	.020	1 1/2 A	.0150	.0150
23	D330T	D	4	4 1/2 x 5 1/2	350.0	135-2200	10-600	600								14	.031	30	30	.015	.020	1 1/2 A	.0150	.0150
24	D330TA	D	4	4 1/2 x 5 1/2	350.0	170-2200	10-600	600								14	.031	30	30	.015	.020	1 1/2 A	.0150	.0150
25	D33-T	D	6	4 1/2 x 5 1/2	525.0	205-2200	10-600	600								14	.031	30	30	.015	.020	1 1/2 A	.0150	.0150
26	D33-TA	D	6	4 1/2 x 5 1/2	525.0	255-2200	10-600	600								14	.031	30	30	.015	.020	1 1/2 A	.0150	.0150
27	D342NA	D	6	5 1/2 x 8	1246.0	200-1300	10-450	450								14	.031	45	45	.016	.016	4A	.0200	.0200
28	D353TA	D	6	6 1/2 x 8	1473.0	500-1400	10-475	475								14	.031	30	30	.025	.025	5 1/2 A	.0200	.0200
29	1673	D	6	4 1/2 x 5 1/2	525.0	220-2200	45-2200	550								14	.031	30	30	.015	.025	7 1/2 A	.0150	.0150
30	D320TA	D	4	4 x 5	251.0	124-2400	10-550	550								14	.031	30	30	.015	.020	1 1/2 A	.0150	.0150
31	D342T	D	6	5 1/2 x 8	1246.0	320-1300	10-450	450								14	.031	45	45	.016	.016	4A	.0200	.0200
Chrysler																								
32	IND30, IND31	G	6	3 1/2 x 4 1/2	230.0	73-2800	50-2000	550	CW	39	.019	17-20	TC	1,5,3,6,2,4	VD	14	.035	45	45	.014	.014	12B	.0020	.0050
33	IND32, IND33	G	6	3 1/2 x 4 1/2	265.0	88-2800	50-2000	550	CW	39	.019	17-20	TC	1,5,3,6,2,4	VD	14	.035	45	45	.014	.014	12B	.0020	.0050
Continental																								
34	N56	G	4	2 1/2 x 3 1/2	86.0	14-2200	25-	500			.020		TC	1,3,4,2	Fly	18	.025	30	45	.015	.015		.0080	.0080
35	N62	G	4	2 1/2 x 3 1/2	62.0	15-2200	25-	500			.020		TC	1,3,4,2	Fly	18	.025	30	45	.012	.012		.0080	.0080
36	Y99	G	4	2 1/2 x 3 1/2	99.0	21-2400	35-	500			.020		TC	1,3,4,2	Fly	18	.025	30	45	.012	.012		.0080	.0080
37	Y91	G	4	2 1/2 x 3 1/2	91.0	20-2400	35-	500			.020		TC	1,3,4,2	Fly	18	.020	30	45	.012	.012		.0080	.0080
38	Y112	G	4	3 1/2 x 3 1/2	112.0	32-2400	35-	500			.020		TC	1,3,4,2	Fly	18	.020	30	45	.012	.012		.0080	.0080
39	F124	G	4	3 x 4 1/2	124.0	37-2400	25-	500			.020		TC	1,3,4,2	Fly	18	.020	30	45	.014	.014		.0080	.0080
40	F140	G	4	3 1/2 x 4 1/2	140.0	42-2400	25-	500			.020		TC	1,3,4,2	Fly	18	.020	30	45	.014	.014		.0080	.0080
41	F162	G	4	3 1/2 x 4 1/2	162.0	48-2400	25-	500	CW	34	.020	17-23	TC	1,3,4,2	Fly	18	.020	30	45	.014	.014		.0080	.0080
42	F186	G	6	3 x 4 1/2	186.0	61-2400	25-	500			.020		TC	1,5,3,6,2,4	Fly	18	.020	30	45	.014	.014		.0080	.0080
43	F209	G	6	3 1/2 x 4 1/2	209.0	68-2400	25-	500	CC		.020	19-23	TC	1,5,3,6,2,4	Fly	18	.020	30	45	.014	.014		.0080	.0080
44	F226	G	6	3 1/2 x 4 1/2	226.0	73-2400	25-	500	CW	34	.020	17-23	TC	1,5,3,6,2,4	Fly	18	.020	30	45	.014	.014		.0080	.0080
45	F244	G	6	3 1/2 x 4 1/2	244.0	79-2400	25-	500	CW	34	.020	17-23	TC	1,5,3,6,2,4	Fly	18	.020	30	45	.014	.014		.0080	.0080
46	M271	G	6	3 1/2 x 4 1/2	271.0	86-2400	45-	500			.020		TC	1,5,3,6,2,4	Fly	18	.020	30	45	.017	.020		.0080	.0080
47	M290	G	6	3 1/2 x 4 1/2	290.0	92-2400	45-	500			.020		TC	1,5,3,6,2,4	Fly	18	.020	30	45	.017	.020		.0080	.0080
48	M330	G	6	4 x 4 1/2	330.0	104-2400	45-	500	CW	34	.020	17-23	TC	1,5,3,6,2,4	Fly	18	.020	30	45	.017	.020		.0080	.0080
49	M363	G	6	4 x 4 1/2	363.0	129-2800	45-	500	CW	34	.020	17-23	TC	1,5,3,6,2,4	Fly	18	.020	30	45	.017	.020		.0080	.0080
50	B371	G	6	4 1/2 x 4 1/2	371.0	110-2400	45-	500			.020		TC	1,5,3,6,2,4	Fly	18	.020	30	45	.017	.022		.0080	.0080
51	B427	G	6	4 1/2 x 4 1/2	427.0	127-2400	45-	500	CW	34	.020	17-23	TC	1,5,3,6,2,4	Fly	18	.020	30	45	.017	.022		.0080	.0080
52	ZD129	D	4	3 1/2 x 3 1/2	129.0	34-2000	35-1000	600						1,3,4,2	Fly			45	45	.012	.012		.0080	.0080
53	ZD144	D	4	3 1/2 x 3 1/2	144.0	39-2000	35-1000	600						1,3,4,2	Fly			45	45	.012	.012		.0080	.0080
54	GD157	D	4	3 1/2 x 4 1/2	157.0	39-2000	35-1000	600						1,3,4,2	Fly			45	45	.014	.014		.0080	.0080
55	GD193	D	4	3 1/2 x 4 1/2	193.0	43-2000	35-1000	600						1,3,4,2	Fly			45	45	.014	.014		.0080	.0080
56	ED201	D	4	3 1/2 x 4 1/2	201.0	48-2000	35-1000	600						1,3,4,2	Fly			45	45	.014	.014		.0080	.0080
57	ED208	D	4	3 1/2 x 4 1/2	208.0	57-2000	35-1000	600	CC				30B	1,3,4,2	Fly			45	45	.014	.014		.0080	.0080
58	HD260	D	4	3 1/2 x 5 1/2	260.0	59-2000	35-1000	600						1,3,4,2	Fly			45	45	.014	.014		.0080	.0080
59	HD277	D	4	4 x 5 1/2	277.0	73-2000	35-1000	775	CC				21B	1,3,4,2	Fly			45	45	.014	.014		.0080	.0080
60	JD382	D	4	4 1/2 x 6	382.0	73-1600	35-1000	775	CC				27B	1,3,4,2	Fly			45	45	.014	.014		.0080	.0080
61	JD403																							

Construction and Off-Highway Equipment

Keep it handy in the shop for fast reference

For footnotes & abbreviations, see pg C6

PISTONS		RINGS		CRANKSHAFT			TORQUE WRENCH SETTING (FL. LB.)										LUBRICATION					Line Number
Top Clearance	Skirt Clearance	Gap Clearance		End Play	Main Bearing Journal Diameter	Connecting Rod Journal Diameter	Connecting Rod Bearings	Main Bearings	Cylinder Head Studs	Spark Plug	Flywheel Bolts	Manifold Studs		A. P. I. Service Classification	At Temperature Range							
		Compression	Oil									Intake	Exhaust		0 to - 10 deg.	0 to + 10 deg.	10 to 32 deg.	32 to 90 deg.				
.0240	.0023	.0150	.0120	.006	2.7500	1.9375	35-40	90	70	25-30	70	25	25	MS	10W	10W	10W	20W	1			
.0240	.0023	.0150	.0120	.006	2.7500	1.9375	35-40	90	70	25-30	70	25	25	MS	10W	10W	10W	20W	2			
.0265	.0033	.0130	.0350	.006	3.0000	2.3750	45-55	130-140	70-75	25-30	75-80	35	35	MS	10W	10W	10W	20W	3			
.0110	.0230	.0180	.011	3.7455	3.2480	160-170	160-170 ¹⁹	160-170 ²⁰	160-170 ²⁰	150-165	45-50	85-95	85-95	DS	20	20	20	30	4			
.0110	.0230	.0180	.011	3.7455	3.2480	160-170	160-170	160-170	160-170	150-165	45-50	85-95	85-95	DS	20	20	20	30	5			
.0053	.0140	.0105	.005	2.4975	1.9978									DM	20	20	20	30	6			
.0060	.0120	.0105	.005	2.4975	1.9978		60-70	125-135						DM	20	20	20	30	7			
.0068	.0130	.0120	.010	3.4985	2.7720		120-130	160-170 ²¹						DM	20	20	20	30	8			
.0083	.0130	.0130	.010	3.4985	2.7720		120-130	160-170 ²²	95-105 ²³		68-73	45-50	85-95	DM	20	20	20	30	9			
.0083	.0130	.0130	.010	3.4985	2.7720		120-130	160-170 ²²	95-105 ²³		68-73	45-50	85-95	DS	20	20	20	30	10			
	.0050	.0190		.007	2.9990	2.7490	95-105	145-155	120-125		80	25	25	DS	10W	10W	10W	20W	11			
	.0050	.0180		.007	2.9990	2.7480	95-105	145-155	120-125		80	25	25	DS	10W	10W	10W	20W	12			
	.0055	.0190		.007	2.9990	2.7480	95-105	145-155	120-125		80	25	25	DS	10W	10W	10W	20W	13			
	.0040	.0180		.007	2.9990	2.7480	95-105	145-155	120-125		80	25	25	MS	10W	10W	10W	20W	14			
	.0310	.0350		.007	2.9990	2.7480	95-105	145-155	120-125		80	25	25	MS	10W	10W	10W	20W	15			
	.0040	.0150	.0350	.004	2.8740	2.0615	45-50	125-135	95-100		65-70	25-30	25-30	DS	10W	10W	10W	20W	16			
	.0040	.0150	.0140	.004	2.8740	2.0615	45-50	90-100	95-100	32-35	65-70	25-30	25-30	MS	10W	10W	10W	20W	17			
	.0030	.0150	.0140	.004	2.6250	2.0615	45-50	95-100	95-100	32-35	65-70	25-30	25-30	MS	10W	10W	10W	20W	18			
	.0030	.0150	.0140	.004	2.2490	1.9365	45-50	90-100	60-65	34	65-70	30	30	MS	10W	10W	10W	20W	19			
	.0050	.0180		.008	2.9990	2.7490	95-105	145-155	120-125		80	25	25	DS	10W	10W	10W	20W	20			
	.0040	.0180		.008	2.9990	2.7480	95-105	145-155	120-125	34	80	25	25	MS	10W	10W	10W	20W	21			
		.0185	.0170	.015	2.9995	2.6425	58	118	80-90	28-32	60-70	24-30	24-30	Ser 3	10W	10W	10W	30	22			
		.0205	.0170	.015	3.4995	2.9995	85	155	115-125	28-32	118-142	24-30	24-30	Ser 3	10W	10W	10W	30	23			
		.0205	.0170	.015	3.4995	2.9995	85	155	115-125	28-32	60-70	24-30	24-30	Ser 3	10W	10W	10W	30	24			
		.0205	.0170	.015	3.4995	2.9995	85	155	115-125	28-32	118-142	24-30	24-30	Ser 3	10W	10W	10W	30	25			
		.0205	.0170	.015	3.4995	2.9995	85	155	115-125	28-32	60-70	24-30	24-30	Ser 3	10W	10W	10W	30	26			
		.0195	.0200	.016	3.7495	3.6245	190	350	300 ³	28-32	230	60-70	60-70	Ser 3	10W	10W	10W	30	27			
		.0280	.0220	.016	4.6245	4.1245	190	445	300	28-32	275-300	60-70	60-70	Ser 3	10W	10W	10W	30	28			
		.0205	.0170	.015	3.5000	3.0000	85	155	120-130		118-142			Ser 3	10W	10W	10W	30	29			
		.0185	.0170	.015	2.9995	2.6425	58	118	80-90	28-32	60-70	24-30	24-30	Ser 3	10W	10W	10W	30	30			
		.0195	.0200	.016	3.7495	3.6245	190	350	300 ³	28-32	230	60-70	60-70	Ser 3	10W	10W	10W	30	31			
.0305 ⁴	.0010 ⁵	.0120 ⁶	.0018 ⁷	.004	2.5000	2.0600	45	85	70	30	60	20	20	MS	5W	20W	20W	30	32			
.0305 ⁴	.0010 ⁵	.0120 ⁶	.0018 ⁷	.004	2.5000	2.1200	45	85	70	30	60	20	20	MS	5W	20W	20W	30	33			
.0020	.0090	.0090	.005	1.9995	1.4995			85-95	35-40	35				MS	10W	10W	10W	20W	34			
.0020	.0120	.0120	.005	1.9995	1.4995			85-95	35-40	35				MS	10W	10W	10W	20W	35			
.0020	.0110	.0090	.005	1.7480	1.4995			85-95	35-40	35				MS	10W	10W	10W	20W	36			
.0020	.0110	.0090	.005	1.7480	1.4995			85-95	35-40	35				MS	10W	10W	10W	20W	37			
.0020	.0105	.0120	.005	1.7430	1.4995			85-95	35-40	35				MS	10W	10W	10W	20W	38			
.0030	.0105	.0120	.005	2.2495	1.9370			85-95	70-75	35				MS	10W	10W	10W	20W	39			
.0030	.0120	.0120	.005	2.2495	1.9370			85-95	70-75	35				MS	10W	10W	10W	20W	40			
.0030	.0120	.0120	.005	2.2495	1.9370			85-95	70-75	35				MS	10W	10W	10W	20W	41			
.0030	.0105	.0120	.007	2.2495	1.9370			85-95	35-40	35				MS	10W	10W	10W	20W	42			
.0030	.0120	.0120	.007	2.2495	1.9370		30-35	85-95	35-40	35	35-40	25-30	25-30	MS	10W	10W	10W	20W	43			
.0030	.0150	.0120	.007	2.2495	1.9370			85-95	35-40	35				MS	10W	10W	10W	20W	44			
.0040	.0115	.0130	.007	2.6235	2.4985			85-95	70-75	35				MS	10W	10W	10W	20W	45			
.0050	.0105 ⁸	.0130	.007	2.6235	2.4985			85-95	70-75	35				MS	10W	10W	10W	20W	46			
.0050	.0105 ⁹	.0150 ⁹	.007	2.6235	2.4985			85-95	70-75	35				MS	10W	10W	10W	20W	47			
.0050	.0180	.0180	.007	2.6235	2.4985			85-95	70-75	35				MS	10W	10W	10W	20W	48			
.0050	.0135	.0120	.007	2.8735	2.4985			85-95	70-75	35				MS	10W	10W	10W	20W	49			
.0050	.0180	.0180	.007	2.8735	2.4985			85-95	70-75	35				MS	10W	10W	10W	20W	50			
.0030	.0150	.0150	.005	2.5000	2.2500			85-95	100-110					DG	10W	10W	10W	20	51			
.0030	.0150	.0150	.005	2.5000	2.2500			85-95	100-110					DG	10W	10W	10W	20	52			
.0040	.0150	.0150	.005	2.3750	2.0625			85-95	70-75					DG	10W	10W	10W	20	53			
.0040	.0150	.0150	.005	2.3750	2.2500			110-120	100-110					DG	10W	10W	10W	20	54			
.0040	.0150	.0150	.005	2.6250	2.2500			110-120	100-110					DG	10W	10W	10W	20	55			
.0050	.0150	.0150	.005	2.6250	2.2500		60-65	90-100	90-100		35-40	50-55	50-55	DG	10W	10W	10W	20	56			
.0040	.0150	.0150	.005	2.8750	2.5000									DG	10W	10W	10W	20	57			
.0050	.0150	.0150	.007	2.8750	2.5000		75-85	140	130-140		85-95	25-30	25-30	DG	10W	10W	10W	20	58			
.0050	.0175	.0175	.007	3.2500	2.7500		75-85	140	130-140		145-155	25-30	25-30	DG	10W	10W	10W	20	59			
.0080	.0175	.0175	.007	3.2500	2.7500									DG	10W	10W	10W	20	60			
.0060	.0160	.0160	.007	2.8750	2.5000		85-95	100-110 ¹	130-140		85-95	50-55	50-55	DG	5W-20	5W-20	10W-30	30	61			
.0070	.0180	.0180	.007	3.2500	3.0000		85-95	100-110 ¹	145-155		85-95	50-55	50-55	DG	5W-20	5W-20	10W-30	30	62			
.0090	.0250	.0250	.007	3.7500	3.5000		85-95	100-110 ¹	145-155		85-95	50-55	50-55	DG	5W-20	5W-20	10W-30	30	63			

ENGINE SERVICE DATA for 1961

1961 Edition of CCJ's exclusive maintenance specifications

Line Number	ENGINE MAKE AND MODEL	Engine Type	Number of Cylinders	Bore and Stroke (In.)	Piston Displacement (Cu. In.)	Max. Hp. at R.P.M.	Oil Pressure at R.P.M.	Idle Speed (R.P.M.)	IGNITION						SPARK PLUG		VALVES				CYLINDERS		
									Distributor Rotation	Cam Angle (Deg.)	Point Gap (In.)	Breaker Arm Spring Tension (Oz.)	Ignition Timing	Firing Order	Timing Mark Location	Size (mm.)	Gap (In.)	Intake	Exhaust	Intake	Exhaust	Intake Opens	Maximum Allowable Taper	Maximum Allowable Out of Round
Cummins																							
1	J70	D	4	4 1/8 x 5	287.0	70-2200	55-2200	500						1,2,4,3	FDP		30	30	.015	.025	.0020	.0010	
2	J80	D	4	4 1/8 x 5	287.0	80-2500	55-2500	500						1,2,4,3	FDP		30	30	.015	.025	.0020	.0010	
3	C160	D	6	4 1/8 x 5	464.0	160-2500	55-2500	500						1,3,6,2,4	FDP		30	30	.015	.025	.0020	.0010	
4	C175	D	6	4 1/8 x 5	464.0	175-2500	55-2500	500						1,3,6,2,4	FDP		30	30	.015	.025	.0020	.0010	
5	NT180	D	4	5 1/8 x 6	495.0	180-2100	55-2100	500						1,2,4,3	FDP		30	30	.014	.027	.0010	.0010	
6	NT200	D	4	5 1/8 x 6	495.0	200-2100	55-2100	500						1,2,4,3	FDP		30	30	.014	.027	.0010	.0010	
7	H	D	6	4 1/8 x 6	672.0	160-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.014	.027	.0010	.0010	
8	HS	D	6	4 1/8 x 6	672.0	210-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.016	.028	.0010	.0010	
9	NH180	D	6	4 1/8 x 6	672.0	180-2100	40-2100	500						1,3,6,2,4	FDP		30	30	.014	.027	.0010	.0010	
10	NH195	D	6	4 1/8 x 6	742.0	195-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.014	.027	.0010	.0010	
11	HR	D	6	5 1/8 x 6	743.0	174-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.014	.027	.0010	.0010	
12	HRS	D	6	5 1/8 x 6	743.0	240-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.016	.028	.0010	.0010	
13	NFT	D	6	5 1/8 x 6	743.0	375-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.014	.027	.0010	.0010	
14	NH220	D	6	5 1/8 x 6	743.0	220-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.014	.027	.0010	.0010	
15	NHS	D	6	5 1/8 x 6	743.0	290-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.014	.027	.0010	.0010	
16	NHRS	D	6	5 1/8 x 6	743.0	320-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.014	.027	.0010	.0010	
17	NT	D	6	5 1/8 x 6	743.0	250-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.014	.027	.0010	.0010	
18	NTO	D	6	5 1/8 x 6	743.0	262-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.014	.027	.0010	.0010	
19	NRT	D	6	5 1/8 x 6	743.0	300-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.014	.027	.0010	.0010	
20	NRT0	D	6	5 1/8 x 6	713.0	335-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.014	.027	.0010	.0010	
21	J	D	6	4 1/8 x 5	401.0	100-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.015	.025	.0010	.0010	
22	JF	D	6	4 1/8 x 5	401.0	110-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.015	.025	.0010	.0010	
23	JS	D	6	4 1/8 x 5	401.0	160-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.015	.025	.0010	.0010	
24	JN	D	6	4 1/8 x 5	401.0	130-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.015	.025	.0010	.0010	
25	JNS	D	6	4 1/8 x 5	401.0	175-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.015	.025	.0010	.0010	
26	JT	D	6	4 1/8 x 5	401.0	175-1800	40-1800	500						1,3,6,2,4	FDP		30	30	.015	.025	.0010	.0010	
27	L	D	6	7 x 10	2309.0	265-1000	50-1000	500						1,3,6,2,4	Fly		30	30	.014	.018	.0020	.0030	
28	LR	D	6	7 1/2 x 10	2477.0	320-1100	50-1100	500						1,3,6,2,4	Fly		30	30	.014	.018	.0020	.0030	
29	LRT	D	6	7 1/2 x 10	2477.0	450-1100	50-1100	500						1,3,6,2,4	Fly		30	30	.014	.018	.0020	.0030	
30	NVH	D	12	5 1/8 x 6	1486.0	424-2100	45-2100	500						(1)	AD		30	30	.014	.027	.0010	.0010	
31	VT12	D	12	5 1/8 x 6	1486.0	600-2100	45-2100	500						(1)	AD		30	30	.014	.027	.0010	.0010	
32	NH250	D	6	5 1/8 x 6	855.0	250-2100	55-2100	520						1,3,6,2,4	FDP		30	30	.014	.027	.0020	.0030	
33	NT380	D	6	5 1/8 x 6	855.0	380-2300	55-2300	520						1,3,6,2,4	FDP		30	30	.014	.027	.0020	.0030	
34	V8-350	D	8	5 1/8 x 6	950.0	350-2500	55-2500	520						1,5,4,8,6,3,7,2	AD		30	30	.014	.027	.0020	.0030	
35	VT8-430	D	8	5 1/8 x 6	950.0	430-2500	55-2500	520						1,5,4,8,6,3,7,2	AD		30	30	.014	.027	.0020	.0030	
36	C180	D	6	4 1/8 x 5	464.0	180-2500	55-2500	520						1,3,6,2,4	FDP		30	30	.015	.025	.0020	.0030	
37	V12-525	D	12	5 1/8 x 6	1710.0	525-2100	45-2100	520						(1)	AD		30	30	.014	.027	.0010	.0010	
38	V12-700	D	12	5 1/8 x 6	1710.0	700-2100	45-2100	520						(1)	AD		30	30	.014	.027	.0010	.0010	
John Deere																							
39	840	D	2	6 1/2 x 8	471.0	76-1125	25-1270	1270					25B	1,2	Fly		45	45	.020	.020	12B	.0050	
40	3010D	D	4	4 1/8 x 4 1/2	253.0	50-	30-1900	600						1,3,4,2	Fly		45	45	.018	.018	28 1/2 A	.0050	
41	3010G	G	4	4 x 4	201.0		30-1900	450	CW	34	.022	17-21	205	1,3,4,2	Fly	18	.025	45	45	.015	.015	28A	.0050
42	1010G	G	4	3 1/2 x 3	115.5		30-1900	600	CC	30	.022	17-21	26B	1,3,4,2	Fly	14	.025	30	45	.012	.018	57B	.0010
43	1010D	D	4	3 1/2 x 3 1/2	144.5		30-1900	750						1,3,4,2	Fly	14	.025	45	45	.012	.018	57B	.0010
44	2010G	G	4	3 1/2 x 3 1/2	144.5		30-1900	600	CC	30	.022	17-21	26B	1,3,4,2	Fly	14	.025	30	45	.012	.018	57B	.0010
45	2010D	D	4	3 1/2 x 3 1/2	165.0		30-1900	750						1,3,4,2	Fly	14	.025	45	45	.012	.018	57B	.0010
Ford																							
46	172	D	4	3 1/8 x 3 1/2	172.0	56-2200	48-1400	850	CW	30	.025	17-20	4B	1,2,4,3	Fly	14	.027	46	46	.015	.015	15B	.0010
47	172	G	4	3 1/8 x 3 1/2	172.0	63-2200	48-1400	475						1,2,4,3	Fly	14	.027	46	46	.015	.015	15B	.0010
48	K292	G	8	3 1/8 x 3 1/2	292.0		45-2000	550	CC	27	.015	17-20	4B	1,5,4,8,6,3,7,2	VD	18	.030	45	45	.018	.018	.0080	.0050
49	L332	G	8	3 1/8 x 3 1/2	332.0		45-2000	550	CC	27	.015	17-20	4B	1,5,4,8,6,3,7,2	VD	18	.030	45	45	.020	.020	.0080	.0050
50	Q401	G	8	4 1/8 x 3 1/2	401.0		50-2000	525	CC	27	.015	17-20	4B	1,5,4,8,6,3,7,2	VD	18	.030	45	45	.020	.020	.0080	.0050
51	M477	G	8	4 1/8 x 3 1/2	477.0		50-2000	525	CC	27	.015	17-20	4B	1,5,4,8,6,3,7,2	VD	18	.030	45	45	.020	.020	.0080	.0050
52	N534	G	8	4 1/8 x 3 1/2	534.0		50-2000	525	CC	27	.015	17-20	4B	1,5,4,8,6,3,7,2	VD	18	.030	45	45	.020	.020	.0080	.0050
53	144	D	4	3 1/8 x 3 1/2	144.0	43-2200								1,2,4,3			46	46	.015	.015	15B	.0010	
54	F223	G	6	3 1/8 x 3 1/2	223.0		45-2000	525	CW	37	.025	17-20	4B	1,3,6,2,4	VD		.030	45	45	.019	.019		.0010
General Motors																							
55	3-71	D	3	4 1/8 x 5	212.8	118-2300	40-2100	500									30		.009		.0020	.0030	
56	4-71	D	4	4 1/8 x 5	283.7	167-2300	40-2100	500									30		.009		.0020	.0030	
57	6-71	D	6	4 1/8 x 5	425.6	252-2300	40-2100	500									30		.009		.0020	.0030	
58	6V-71	D	6	4 1/8 x 5	425.6	252-2300	50-2100	500									30		.014		.0020	.0030	
59	8V-71	D	8	4 1/8 x 5	567.4	336-2300	50-2100	500									30		.014		.0020	.0030	
60	12V-71	D	12	4 1/8 x 5	851.2	504-2300	50-2100	500									30		.014		.0020	.0030	
61	6-110 (4V)	D	6	6 5/8 x 7 1/2	660.0	336-2000	45-2000	500									30		.014		.0020	.0030	
62	2-53	D	2	3 1/8 x 4 1/2	106.2	47-2000	40-2000	600								</							

Construction and Off-Highway Equipment

Keep it handy in the shop for fast reference

For footnotes & abbreviations, see pg C6

PISTONS		RINGS		CRANKSHAFT			TORQUE WRENCH SETTING (Fl. lb.)							LUBRICATION					
Top Clearance	Skirt Clearance	Gap Clearance		End Play	Main Bearing Journal Diameter	Connecting Rod Journal Diameter	Connecting Rod Bearings	Main Bearings	Cylinder Head Studs	Spark Plug	Flywheel Bolts	Manifold Studs		A. P. I. Service Classification	At Temperature Range				Line Number
		Compression	Oil									Intake	Exhaust		0 to -10 deg.	0 to +10 deg.	10 to 32 deg.	32 to 90 deg.	
		.0180	.0180	.008	3.8745	2.6245			380-400		110		22		5W	10W	10W	20	1
		.0180	.0180	.008	3.8745	2.6245			380-400		110		22		5W	10W	10W	20	2
	.0085	.0180	.0180	.008	3.8745	2.6245			380-400		110		22		5W	10W	10W	20	3
	.0085	.0180	.0180	.008	3.8745	2.6245			380-400		110		22		5W	10W	10W	20	4
		.0180	.0180	.010	4.4995	3.1245			430-450		200		40		5W	10W	10W	20	5
		.0180	.0180	.010	4.4995	3.1245			430-450		200		40		5W	10W	10W	20	6
		.0175	.0175	.010	4.4995	3.1245			430-450		200		40 ¹³		5W	10W	10W	20	7
	.0185	.0185	.0185	.010	4.4995	3.1245			430-450		200		40 ¹³		5W	10W	10W	20	8
	.0175	.0175	.0175	.010	4.4995	3.1245			430-450		200		40 ¹³		5W	10W	10W	20	9
	.0175	.0175	.0175	.010	4.4995	3.1245			430-450		200		40 ¹³		5W	10W	10W	20	10
	.0190	.0190	.0190	.010	4.4995	3.1245			430-450		200		40		5W	10W	10W	20	11
	.0190	.0190	.0190	.010	4.4995	3.1245			430-450		200		40		5W	10W	10W	20	12
	.0190	.0190	.0190	.010	4.4995	3.1245			430-450		200		40		5W	10W	10W	20	13
	.0190	.0190	.0190	.010	4.4995	3.1245			430-450		200		40		5W	10W	10W	20	14
	.0190	.0190	.0190	.010	4.4995	3.1245			430-450		200		40		5W	10W	10W	20	15
	.0190	.0190	.0190	.010	4.4995	3.1245			430-450		200		40		5W	10W	10W	20	16
	.0190	.0190	.0190	.010	4.4995	3.1245			430-450		200		40		5W	10W	10W	20	17
	.0180	.0180	.0180	.007	3.8745	2.6245			380-400 ¹²		110		22 ¹⁴	MS	5W	10W	10W	20	18
	.0180	.0180	.0180	.007	3.8745	2.6245			380-400 ¹²		110		22 ¹⁴		5W	10W	10W	20	19
	.0180	.0180	.0180	.007	3.8745	2.6245			380-400 ¹²		110		22 ¹⁴	MS	5W	10W	10W	20	20
	.0180	.0180	.0180	.007	3.8745	2.6245			380-400 ¹²		110		22 ¹⁴		5W	10W	10W	20	21
	.0180	.0180	.0180	.007	3.8745	2.6245			380-400 ¹²		110		22 ¹⁴	MS	5W	10W	10W	20	22
	.0235	.0235	.0235	.012	5.4995	4.2495			550-650				60		5W	10W	10W	20	23
	.0200	.0200	.0200	.012	5.4995	4.2495			550-650				60		5W	10W	10W	20	24
	.0200	.0200	.0200	.012	5.4995	4.2495			550-650				60		5W	10W	10W	20	25
	.0225	.0225	.0225	.010	4.9995	3.7495			450		200		60		5W	10W	10W	20	26
	.0225	.0225	.0225	.010	4.9995	3.7495			450		200		60	MS	5W	10W	10W	20	27
	.0123	.0180	.0220	.010	4.9995	3.1245			325		200		40		5W	10W	10W	20	28
	.0123	.0180	.0220	.010	4.9995	3.1245			325		200		40		5W	10W	10W	20	29
	.0128	.0180	.0220	.009	4.2495	3.1245			180		300		30		5W	10W	10W	20	30
	.0128	.0180	.0220	.009	4.2495	3.1245			180		300		30		5W	10W	10W	20	31
	.0085	.0130	.0150	.011	3.8750	2.6250			400		110		40		5W	10W	10W	20	32
	.0123	.0180	.0220	.010	4.9995	3.7495			325		200		60		5W	10W	10W	20	33
	.0123	.0180	.0220	.010	4.9995	3.7495			325		200		60		5W	10W	10W	20	34
.0215	.0143	.0350	.0350	.007	4.4985	3.9996	200-220	150	275		334			DM	5W	10W	10W	20W	39
.0229	.0200	.0180	.0180	.006	3.3725	2.9990	120-130	150	115	32-38	85			MS	10W	10W	10W	20W	40
.0229	.0200	.0180	.0180	.006	3.3725	2.9990	100-110	150	115	32-38	85			DS	10W	10W	10W	20W	41
.0025	.0030	.0150	.0140	.006	2.9979	2.3090	40-45	140-150	120-125	35	70-76			MS	5W	5W	5W	20	42
.0010	.0055	.0150	.0140	.006	2.9979	2.3090	40-45	140-150	120-125	35	70-76			DS	5W	5W	5W	20	43
.0025	.0030	.0150	.0140	.006	2.9979	2.3090	40-45	140-150	120-125	35	70-76			MS	5W	10W	10W	20	44
.0010	.0055	.0150	.0140	.006	2.9979	2.3090	40-45	140-150	120-125		70-76			DS	5W	10W	10W	20	45
.0024	.0060	.0015	.0015	.004	2.4981	2.2983	45-90	110-115	100-105		75-85	40-50	40-50		10, 10W	10, 10W	20, 20W	30	46
.0026	.0023	.0015	.0015	.004	2.4981	2.2983	40-80	100-105	65-75		75-85	40-50	40-50		10, 10W	10, 10W	20, 20W	30	47
		.0185	.0385	.010	2.4984	2.1884	40-42	80-90	65-75		75-85	23-28	23-28		10W	10W	20, 20W	30	48
		.0185	.0185	.012	2.6234	2.2486	40-42	120-130	95-110		75-85	23-28	23-28		10W	10W	20, 20W	30	49
		.0205	.0205	.012	3.1250	2.7500	60-65	150-164	130-150			23-28	23-28		10W	10W	20, 20W	30	50
		.0205	.0205	.012	3.1250	2.7500	60-65	150-164	130-150			23-28	23-28		10W	10W	20, 20W	30	51
		.0205	.0205	.012	3.1250	2.7500	60-65	150-164	130-150			23-28	23-28		10W	10W	20, 20W	30	52
	.0060	.0015	.0015		2.4981	2.2983									10W	10W	20, 20W	30	53
					2.4984	2.2984	40-42	95-105	65-75			23-28	23-28		10W	10W	20, 20W	30	54
.0298	.0058	.0300	.0150	.008	3.5000	2.7500	65-75	180-190	165-175		150-160		30-35		10W	20W	20W	30	55
.0298	.0058	.0300	.0150	.008	3.5000	2.7500	65-75	180-190	165-175		150-160		30-35		10W	20W	20W	30	56
.0298	.0058	.0300	.0150	.008	3.5000	2.7500	65-75	180-190	165-175		150-160		30-35		10W	20W	20W	30	57
.0298	.0091	.0300	.0150	.008	4.5000	3.0000	65-75	180-190	165-175		150-160		30-35		10W	20W	20W	30	58
.0298	.0091	.0300	.0150	.008	4.5000	3.0000	65-75	180-190	165-175		150-160		30-35		10W	20W	20W	30	59
.0298	.0091	.0300	.0150	.008	4.5000	3.0000	65-75	180-190	165-175		150-160		30-35		10W	20W	20W	30	60
.0367	.0079	.0495	.0200	.009	4.0000	3.2500	65-75	180-215	170-180		150-160		35-40		10W	20W	20W	30	61
.0037		.0330	.0175	.008	2.9995	2.4995	40-45	120-130	170-180		130-140				10W	20W	20W	30	62
	.0120	.0900	.0250	.009	4.0000	3.2500	65-75	215	170-180		150-160		35-40		10W	20W	20W	30	63
.0298	.0091	.0300	.0150	.008	3.5000	2.7500	65-75	180-190	165-175		150-160		30-35		10W	20W	20W	30	64
.0298	.0091	.0300	.0150	.008	3.5000	2.7500	65-75	180-190	165-175		150-160		30-35		10W	20W	20W	30	65
.0298	.0091	.0300	.0150	.008	4.5000	3.0000	65-75	180-190	165-175		150-160		30-35		10W	20W	20W	30	66
.0035	.0035	.0180	.0175	.006	3.0000	2.3250	35	70-80	140		50			MS	10	10	20	30	67
		.0175	.0175	.008	2.5000	2.0000	56												68

ENGINE SERVICE DATA for 1961

1961 Edition of CCJ's exclusive maintenance specifications

Line Number	ENGINE MAKE AND MODEL	Engine Type	Number of Cylinders	Bore and Stroke (In.)	Piston Displacement (Cu. In.)	Max. Hp. at R.P.M.	Oil Pressure at R.P.M.	Idle Speed (R.P.M.)	IGNITION							SPARK PLUG		VALVES			CYLINDERS			
									Distributor Rotation	Cam Angle (Deg.)	Point Gap (In.)	Breaker Arm Spring Tension (Oz.)	Ignition Timing	Firing Order	Timing Mark Location	Size (mm.)	Gap (In.)	Intake	Exhaust	Intake	Exhaust	Intake Opens	Maximum Allowable Taper	Maximum Allowable Out of Round

Hercules—continued

1	GO-169	G	3	4x4 $\frac{1}{2}$	169.0	52-2600	40-400			.019	2B				Fly		.025	45	45	.010	.010			
2	GO-198	G	4	3 $\frac{1}{2}$ x4 $\frac{1}{2}$	198.0	55-1800	40-1000	400		.019			2B	1,2,4,3	Fly		.025	45	45	.010	.010			
3	GO-226	G	4	4x3 $\frac{1}{2}$	226.0	61-1800	40-1000	400		.019			2B	1,2,4,3	Fly		.025	45	45	.010	.010			
4	CV4-180	G	4	4x3 $\frac{1}{2}$	176.0	71-3000	50-700			.020				1,4,2,3	F	14		30	45	.006	.006	.0050	.0015	
5	ZXB	G	4	2 $\frac{1}{2}$ x3	65.0	21-2800	15-1600	400		.019				1,2,4,3	Fly			30	30	.006	.006			
6	JXC	G	6	3 $\frac{1}{2}$ x4 $\frac{1}{2}$	282.0	71-1800	26-1600			.019				1,5,3,6,2,4	Fly		.025	45	45	.007	.010			
7	JXB	G	4	3 $\frac{1}{2}$ x4	133.0	31-1800	20-1600	400		.019				1,2,4,3	Fly		.025	30	30	.006	.006			
8	JXB	G	4	3 $\frac{1}{2}$ x4	141.0	33-1800	20-1600	400		.019				1,2,4,3	Fly		.025	30	30	.006	.006			
9	JXLD	G	6	4x4 $\frac{1}{2}$	339.0	42-1800	26-1600			.019				1,5,3,6,2,4	Fly		.025	45	45	.007	.010			
10	D-429	D	6	4x4 $\frac{1}{2}$	426.0	138-2400	50-2400	475						1,5,3,6,2,4	Fly			45	45	.016	.016	17B		
11	JXD	D	6	4x4 $\frac{1}{2}$	320.0	82-1800	26-1600			.019				1,5,3,6,2,4	Fly		.025	45	45	.007	.010			
12	QXLD	G	6	3 $\frac{1}{2}$ x4 $\frac{1}{2}$	236.7	64-1800	26-1600			.019				1,5,3,6,2,4	Fly		.025	30	30	.007	.010			
13	GO-298	G	6	3 $\frac{1}{2}$ x4 $\frac{1}{2}$	298.0	81-1800	40-1000	400		.019			2B	1,5,3,6,2,4	Fly		.025	45	45	.010	.010			
14	GO-339	G	6	4x4 $\frac{1}{2}$	339.0	92-1800	40-1000	400		.019				1,5,3,6,2,4	Fly		.025	45	45	.010	.010			
15	DD-149	D	3	3 $\frac{1}{2}$ x4 $\frac{1}{2}$	149.0	46-2600									Fly			45	45	.010	.010			
16	DD-169	D	3	4x4 $\frac{1}{2}$	169.0	52-2600									Fly			45	45	.010	.010			
17	DD-198	D	4	3 $\frac{1}{2}$ x4 $\frac{1}{2}$	198.0	54-1800		36-1000							Fly			45	45	.010	.010			
18	DD-226	D	4	4x4 $\frac{1}{2}$	226.0	61-1800	36-1000								Fly			45	45	.010	.010			
19	DJXC	D	6	3 $\frac{1}{2}$ x4 $\frac{1}{2}$	298.0	69-1800	45-2000													.010	.010			
20	DJXD	D	6	4x4 $\frac{1}{2}$	339.0		45-2000													.010	.010			
21	DD298	D	6	3 $\frac{1}{2}$ x4 $\frac{1}{2}$	298.0		36-1000								Fly			45	45	.010	.010			
22	GO-130	G	3	3 $\frac{1}{2}$ x4 $\frac{1}{2}$	130.0		40-400			.019			2B		Fly			45	45	.010	.010			
23	DD-130	D	3	3 $\frac{1}{2}$ x4 $\frac{1}{2}$	130.0										Fly			45	45	.010	.010			
24	DRXC	D	6	4 $\frac{1}{2}$ x5 $\frac{1}{2}$	529.0	119-1600	30-2000													.016	.016			

Hercules-Hall-Scott

25	590	G	6	5x5	590.0	239-2800	60-2000			34	.019		5B	1,5,3,6,2,4	Fly	14	.015	4 $\frac{1}{2}$	45	.016	.019		.0050	.0050
26	6182	G	6	5 $\frac{1}{2}$ x7	1091.0	450-2200					.016			1,4,2,6,3,5	Fly	18	.022	30	45	.021	.031			

International

27	D-166	D	4	3 $\frac{1}{2}$ x3 $\frac{1}{2}$	166.0	55-2400	42-2000	650						1,3,4,2	FDP			45	45	.027	.027	12B	.0005	.0008
28	D-282	D	6	3 $\frac{1}{2}$ x4 $\frac{1}{2}$	282.0	95-2400	42-1550	650						1,5,3,6,2,4	FDP			45	45	.027	.027	12B	.0005	.0008
29	DT-282	D	6	3 $\frac{1}{2}$ x4 $\frac{1}{2}$	282.0	108-2400	42-1700	650						1,5,3,6,2,4	FDP			45	45	.027	.027	12B	.0005	.0008
30	D-554	G	6	4 $\frac{1}{2}$ x5 $\frac{1}{2}$	554.0	144-2000	42-1650	500	CW	.021		TC		1,5,3,6,2,4	FDP	18	.026	45	45	.017	.017	20B	.0008	.0005
31	D-691	G	6	4 $\frac{1}{2}$ x6 $\frac{1}{2}$	691.0	150-1600	42-1550	500	CW	.021				1,5,3,6,2,4	Fly	3 $\frac{1}{2}$	.026	45	45	.018	.018	20B	.0010	.0015
32	D-817	D	6	5 $\frac{1}{2}$ x6	817.0	250-2100	48-2100	650						1,5,3,6,2,4	VD			45	45	.011	.031	8B	.0010	.0015
33	DT-817	D	6	5 $\frac{1}{2}$ x6	817.0	385-2100	48-2100	650						1,5,3,6,2,4	VD			45	45	.011	.031	50B	.0010	.0015

Minneapolis Moline

34	206	G	4	3 $\frac{1}{2}$ x5	206.0	56-1750	35-1750	475		.021		2B	1,3,4,2	Fly	18	.024	45	45	.010	.018		.0020	.0030
35	336	G	4	4 $\frac{1}{2}$ x5	336.0	78-1500	35-1500	475	CW	.021		25	1,3,4,2	Fly	18	.024	45	45	.010	.018		.0020	.0030
36	425	G	6	4 $\frac{1}{2}$ x5	425.0	94-1500	35-1500	475	CW	.021		25	1,5,3,6,2,4	Fly	18	.024	45	45	.010	.018		.0020	.0030

Waukesha

37	180GKB	G	4	3 $\frac{1}{2}$ x3 $\frac{1}{2}$	155.0	50-2400	25-2000			.019		5B	1,2,4,3		18	.025	45	45	.010	.020	8B		.0020
38	190GLB	G	6	3 $\frac{1}{2}$ x4	265.0	77-2200	25-2000			.019		5B	1,5,3,6,2,4		18	.025	45	45	.008	.022	8B		.0020
39	195GLB	G	6	4x4	302.0	85-2400	35-2000			.019		9B	1,5,3,6,2,4		18	.025	45	45	.008	.022	8B		.0020
40	135GZ	G	6	4 $\frac{1}{2}$ x5	451.0	143-2400	40-2000			.019		5B	1,5,3,6,2,4		14	.025	45	45	.011	.023	11B		.0020
41	140GZ	G	6	5 $\frac{1}{2}$ x5 $\frac{1}{2}$	554.0	170-1800	40-2000		CW	.019		TC	1,5,3,6,2,4		14	.025	30	45	.013	.023	TC		.0020
42	145GZ	G	6	5 $\frac{1}{2}$ x6	817.0	250-2400	30-2000		CW	.019		3B	1,5,3,6,2,4		14	.025	30	45	.013	.024	TC		.0020
43	WAKC	G	6	6 $\frac{1}{2}$ x6 $\frac{1}{2}$	1197.0	234-1800	35-2000		CW	.019		12B	1,5,3,6,2,4		14	.025	30	45	.014	.020	TC		.0020
44	180DLC	D	4	3 $\frac{1}{2}$ x3 $\frac{1}{2}$	144.0	45-2400								1,5,3,6,2,4			45	45	.010	.020			
45	185DLC	D	6	3 $\frac{1}{2}$ x3 $\frac{1}{2}$	216.0	60-2400								1,5,3,6,2,4			45	45	.010	.020			
46	190DLC	D	6	3 $\frac{1}{2}$ x4	265.0	85-2600								1,5,3,6,2,4			45	45	.010	.020			
47	195DLC	D	6	4x4	302.0	96-2600								1,5,3,6,2,4			45	45	.010	.020			
48	197DLC	D	6	4x4	302.0	91-2800								1,5,3,6,2,4			45	45	.010	.020			
49	197DLC	D	6	4x4	302.0	131-2800								1,5,3,6,2,4			45	45	.008	.020			
50	135DKB	D	6	4 $\frac{1}{2}$ x5	426.0	147-2800								1,5,3,6,2,4			45	45	.011	.023			
51	135DKB	D	6	4 $\frac{1}{2}$ x5	426.0	185-2800								1,5,3,6,2,4			45	45	.011	.023			
52	148DKB	D	6	5 $\frac{1}{2}$ x6	779.0	200-2100								1,5,3,6,2,4			45	45	.015	.028			
53	148DKB	D	6	5 $\frac{1}{2}$ x6	779.0	280-2100								1,5,3,6,2,4			45	45	.015	.028			
54	WAKD	D	6	6 $\frac{1}{2}$ x6 $\frac{1}{2}$	1197.0	285-1800								1,5,3,6,2,4			30	45	.014	.024			
55	WAKDS	D	6	6 $\frac{1}{2}$ x6 $\frac{1}{2}$	1197.0	400-1800								1,5,3,6,2,4			30	45	.014	.026			

Wisconsin

56	VE4	G	4	3x3 $\frac{1}{2}$	91.9	22 2400	5 2400	1000	CC	42	.020	17 22	27B	1,3,4,2	Fly	18	.030	45	45	.008	.016	5A	.0005	.0005
57	VF4	G	4	3 $\frac{1}{2}$ x3 $\frac{1}{2}$	107.7	25 2400	5 2400	1000	CC	42	.020	17 22	27B	1,3,4,2	Fly	18	.030	45	45	.008	.016	5A	.0005	.0005
58	VH4	G	4	3 $\frac{1}{2}$ x3 $\frac{1}{2}$	107.7	30 2800	5 2800	1000	CC	42	.020	17 22	23B	1,3,4,2	Fly	18	.030	45	45	.008	.016	5A	.0005	.0005
59	VG4D	G	4	3 $\frac{1}{2}$ x4	154.0	37 2400	5 2400	1000	CC	42	.020	17 22	23B	1,3,4,2	Fly	18	.030	45	45	.008	.016	5A	.0005	.0005
60	VR4D	G	4	4 $\frac{1}{2}$ x4 $\frac{1}{2}$	255.0	57 2200	5 2200	1000	CC	42	.020	17 22	209	1,3,4,2	Fly	18	.030	45	45	.008	.016	15B	.0005	.0005

Construction and Off-Highway Equipment

Keep it handy in the shop for fast reference

For footnotes & abbreviations, see pg C6

PISTONS		RINGS		CRANKSHAFT			TORQUE WRENCH SETTING (Fl. lb.)										LUBRICATION				
Top Clearance	Skirt Clearance	Gap Clearance		Compression	Oil	End Play	Main Bearing Journal Diameter	Connecting Rod Journal Diameter	Connecting Rod Bearings	Main Bearings	Cylinder Head Studs	Spark Plug	Flywheel Bolts	Manifold Studs		A. P. I. Service Classification	At Temperature Range				Line Number
														Intake	Exhaust		0 to - 10 deg.	0 to +10 deg.	10 to 32 deg.	32 to 90 deg.	
.0035	.0035	.0175	.0175	.008	2.5000	2.0000			56	70-80	140		80			MS	10	10	20	30	1
.0035	.0035	.0175	.0175	.008	2.5000	2.0000			56	70-80	140		80			MS	10	10	20	30	2
.0035	.0035	.0175	.0175	.008	2.5000	2.0000			56	70-80	140		80			MS	10	10	20	30	3
	.0028	.0180	.0180	.006	2.6260	2.3250			35								10	10	20	30	4
		.0175	.0175	.003	2.0000	1.5000			25	77	35					MS	10	10	20	30	5
.0033	.0033	.0175	.0175	.003	2.5000	2.0000			56	60-70	65-100		80			MS	10	10	20	30	6
.0035	.0035	.0175	.0175	.003	2.0000	1.7500			42	77	40		40			MS	10	10	20	30	7
.0035	.0035	.0175	.0175	.003	2.0000	1.7500			42	77	40		40			MS	10	10	20	30	8
.0050	.0050	.0175	.0175	.003	2.5000	2.0000			56	60-70	65-100		80			MS	10	10	20	30	9
.0100	.0100	.0180	.0220	.006	3.6250	2.8800			158	175	130		130			DG					10
.0043	.0043	.0175	.0175	.003	2.5000	2.0000			56	60-70	65-100		80			MS	10	10	20	30	11
.0033	.0033	.0175	.0175	.003	2.5000	2.0000			39	60-70	60-100					MS					12
.0035	.0035	.0175	.0175	.008	2.5000	2.0000			56	70-80	140		80			MS	10	10	20	30	13
.0035	.0035	.0175	.0175	.008	2.5000	2.0000			56	70-80	140		80			MS	10	10	20	30	14
.0065	.0065	.0150	.0150	.008	2.5000	2.0000			56	70-80	140		80			DS	10	10	20	30	15
.0065	.0065	.0150	.0150	.008	2.5000	2.0000			56	70-80	140		80			DS	10	10	20	30	16
.0065	.0065	.0150	.0150	.008	2.5000	2.0000			56	70-80	140		80			DS	10	10	20	30	17
.0065	.0065	.0150	.0150	.008	2.5000	2.0000			56	70-80	140		80			DS	10	10	20	30	18
.0055	.0055	.0200	.0200	.003	3.0000	2.5000			175	175	157		80			DS	10	10	20	30	19
.0055	.0055	.0200	.0200	.003	3.0000	2.5000			175	175	157		80			DG					20
.0065	.0065	.0150	.0150	.008	2.5000	2.0000			56	70-80	140		80			DS	10	10	20	30	21
.0035	.0035	.0175	.0175	.008	2.5000	2.0000			56	70-80	140		80			MS	10	10	20	30	22
.0065	.0065	.0150	.0150	.008	2.5000	2.0000			56	70-80	140		80			DS	10	10	20	30	23
		.0200	.0200	.003	3.5000	3.0000			175	175	280 ¹⁷		80			DS					24
.0030	.0030	.0200	.0200	.005	3.2500	3.0000	100-120	130-140	180-190	28-32	140-160						20	20	20	30	25
.0030	.0030	.0215	.0215	.009	3.5000	3.2500	130-140	180-200	230-250	32-36	140-180						20	20	20	30	26
.0048	.0048	.0200 ¹⁵	.0165	.009	2.7485	2.3735	45-55	75-85	110-120		45-55	20-25	20-25				10	10	10	30	27
.0068	.0048	.0200 ¹⁵	.0165	.009	2.7485	2.3735	40-50	75-85	110-120		55-65	20-25	20-25				10	10	10	30	28
.0068	.0048	.0200 ¹⁵	.0165	.009	2.7485	2.3735	40-50	75-85	110-120		55-65	20-25	20-25				10	10	10	30	29
.0075	.0075	.0180	.0205 ¹⁶	.012	3.5678	2.7480	55-60	100-120	120-140	35-40	170-190	75-80	75-80				10	10	10	30	30
.0080	.0080	.0230	.0280	.010	3.4980	3.2470	70-75	225-245	180-200	35-40	170-190	75-80	55-65				10	10	10	30	31
.0068	.0068	.0350	.0245	.008	4.4995	3.4995	145-155	225-245	400-425		170-190	75-80	75-80				10	10	10	30	32
.0068	.0068	.0350	.0245	.008	4.4995	3.4995	145-155	225-245	400-425		170-190	75-80	75-80				10	10	10	30	33
.0040	.0150	.0150	.004	2.7500	2.6250	70-75	75-80	70-75		34	70-75	60-65	60-65				5W	10W	10W	20W	34
.0050	.0200	.0200	.005	2.9100	2.9100	80-85	100-135	110-125		34	70-75	70-75	70-75				5W	10W	10W	20W	35
.0050	.0200	.0200	.005	2.9100	2.5700	80-85	100-135	110-125		34	70-75	70-75	70-75				5W	10W	10W	20W	36
.0020	.0150	.0140	.007	2.2500	2.2500												10W	10W	10W	20	37
.0035	.0185	.0105	.007	2.6250	2.2500												10W	10W	10W	20	38
.0035	.0180	.0180	.007	2.6250	2.4375												10W	10W	10W	20	39
.0030	.0200	.0180	.007	3.2500	3.0000												10W	10W	10W	20	40
.0060	.0350	.0250	.007	3.2500	2.8470												10W	10W	10W	20	41
.0070	.0370	.0260	.007	3.5000	2.9990												10W	10W	10W	20	42
.0090	.0500	.0250	.007	4.0000	3.3750												10W	10W	10W	20	43
.0045	.0190	.0120	.007	2.2500																	44
.0045	.0190	.0120	.007	2.2500																	45
.0045	.0200	.0140	.007	2.6300																	46
.0050	.0200	.0150	.007	2.6300																	47
.0060	.0200	.0150	.007	2.6300																	48
.0060	.0200	.0150	.007	2.6300																	49
.0065	.0200		.010	3.2500																	50
.0065	.0200		.010	3.2500																	51
.0070	.0400 ¹⁸	.0200	.009	4.5000																	52
.0070	.0400 ¹⁸	.0200	.009	4.5000																	53
.0090	.0400 ¹⁹	.0250	.009	4.7500																	54
.0090	.0400 ¹⁹	.0250	.009	4.7500																	55
.0043	.0170	.0170	.003		1.7505	24	30	24	30	100	18	18	MS	10W	10W	20-20W	30	56			
.0038	.0170	.0170	.003		1.7505	24	30	24	30	100	18	18	MS	10W	10W	20-20W	30	57			
.0038	.0170	.0170	.003		1.8755	24	30	24	30	100	23	23	MS	10W	10W	20-20W	30	58			
.0040	.0170	.0170	.003		2.1255	32	30	32	30	100	50	50	MS	10W	10W	20-20W	30	59			
.0063	.0170	.0170	.003		2.7503	45	30	30	30	100	30	30	MS	10W	10W	20-20W	30	60			

18—Lower, .0250.
19—Lower, .0350.
20—1½" nuts, 80-85.

21—Front, 210-230.
22—1½" nuts, 210-230.
23—1½" nuts, 180-185.

A—After top center.
AD—Accessory drive.
B—Before top center.

CC—Counter-clockwise.
CP—Crankshaft pulley.
CW—Clockwise.

D—Diesel.
FDP—Fan drive pulley.
Fly—Flywheel.

F—Fan.
G—Gasoline.

LP—Liquified petroleum.
TC—Top center.
VD—Vibration dampener.

Construction Equipment Shipments

By Selected Types, as reported by the Industry Division, Bureau of the Census

		1960		1959		1958	
Type of Equipment		Number	Value	Number	Value	Number	Value
TRACKLAYING TRACTORS							
By Hp rating:							
Under 50 drawbar hp.				15,423	\$43,199,000	10,991	\$30,854,000
50-99 drawbar hp.				8,993	77,281,000	8,185	63,617,000
100 drawbar hp and over				9,696	202,472,000	9,274	172,099,000
20-44 net engine hp.		7,673	\$22,087,000				
45-99 net engine hp.		606	3,113,000				
60-99 net engine hp.		4,221	29,184,000				
90-129 net engine hp.		3,726	41,908,000				
130 net engine hp and over		8,234	173,539,000				
Attachments			15,656,000		17,034,000		16,493,000
Parts			209,669,000		242,719,000		199,644,000
Total—Tracklaying Tractors		24,460	\$495,156,000	34,112	\$582,705,000	28,450	\$482,707,000
WHEEL TRACTORS—Contractors' off-highway type:							
By number of wheels:							
2-wheel		2,319	47,680,000	2,960	63,690,000	2,824	57,828,000
4-wheel		759	17,285,000	1,105	28,254,000	1,264	27,652,000
By Hp rating:							
Under 170 brake hp.				639	8,417,000	695	8,529,000
170-249 brake hp.				1,065	20,096,000	1,254	22,639,000
250 brake hp and over				2,361	63,431,000	2,139	54,312,000
Under 200 max. engine hp.		588	8,271,000				
200-299 max. engine hp.		1,239	23,903,000				
300 max. engine hp and over		1,251	32,791,000				
Attachments			2,443,000		3,465,000		2,595,000
Parts			22,668,000		25,816,000		32,765,000
Total—Contractors' off-highway tractors		3,078	\$90,076,000	4,065	\$121,225,000	4,088	\$120,840,000
OFF-HIGHWAY EQUIPMENT							
Off-highway haulers (trucks)							
Under 16 tons capacity				436	6,311,000	690	9,061,000
16 tons and over				1,951	49,253,000	1,016	30,007,000
Under 20 tons capacity		426	8,534,000				
20 to 30 tons capacity		331	11,420,000				
Over 30 tons capacity		244	14,429,000				
Off-highway trailers and wagons		268	3,346,000	357	4,567,000	424	5,161,000
Other truck-tractor type haulers							
Under 60,000 lbs. g.v.w.		406	5,907,000				
60,000 lbs. and over g.v.w.		594	9,858,000				
Total—Off-Highway Equipment			\$53,494,000		\$60,131,000		\$44,229,000
TRACTOR SHOVEL LOADERS—Integral Units							
Wheel type		8,493	108,966,000	9,256	106,639,000	6,657	69,977,000
Tracklaying		12,698	123,079,000	10,488	122,264,000	7,741	87,912,000
Total—Shovel Loaders		21,191	\$232,045,000	19,744	\$228,903,000	14,398	\$157,889,000
CRANES (except overhead and power)							
POWER CRANES		195	\$9,650,000	40	\$2,825,000	36	\$2,656,000
Crawler Mounted		3,298	151,266,000	4,743	191,448,000	4,048	146,414,000
Rubber tired (truck or wheel mounted)		3,033	72,375,000	2,890	64,324,000	2,555	59,293,000
Walking Draglines and Walking Cranes		13	9,905,000	16	10,914,000	22	10,732,000
Total—Power Cranes		6,344	\$233,546,000	7,649	\$266,686,000	6,625	\$216,456,000
MIXERS, PAVERS, AND RELATED EQUIPMENT							
Concrete Mixers, portable		12,760	27,323,000	21,217	43,276,000	17,378	32,552,000
Concrete Batching Plants		992	14,098,000	1,236	16,992,000	1,086	15,025,000
Bituminous Mixers, Pavers, etc.		6,118	42,118,000	4,480	43,591,000	4,521	43,494,000
Total—Mixers, Pavers, and Related Equipment			\$83,539,000		\$103,859,000		\$91,071,000
CRUSHING, SCREENING, WASHING PLANTS, portable:		1,136	\$28,557,000	1,123	\$32,261,000	1,201	\$29,129,000
DITCHERS, TRENCHERS, SCRAPERS AND ROLLERS							
Self propelled Ditchers and Trenchers							
Ladder-type		2,954	8,550,000	2,134	6,405,000	1,210	4,019,000
Wheel type		333	4,852,000	522	7,522,000	286	4,136,000
Total—Ditchers and Trenchers		3,287	\$13,402,000	2,656	\$13,927,000	1,496	\$8,155,000
Scrapers, dig, carrying, and hauling							
Under 7 cu. yds.		566	578,000	769	702,000	N.A.	N.A.
7 and under 12 cu. yds.		670	4,090,000	1,397	9,103,000	1,182	7,242,000
12 and under 18 cu. yds.		1,173	13,457,000	947	10,506,000	1,206	12,045,000
18 cu. yds. and over		1,124	19,832,000	1,823	35,526,000	1,582	26,949,000
Total—Scrapers		3,533	\$37,957,000	4,936	\$55,837,000	3,970	\$46,236,000
Rollers and Compactors							
Rollers, self-propelled							
3-wheeled				628	3,421,000	495	3,631,000
Portable				380	1,363,000	443	864,000
Tandem, 2 and 3 axle				1,691	7,439,000	1,828	7,819,000
Other, incl. tamping and sheeps foot				3,138	7,630,000		
Compactors, pull and self-propelled types				4,766	15,186,000	6,533	20,028,000
Rollers, self-propelled		4,979	20,200,000				
Rollers, towed		1,574	4,799,000				
Vibratory compactors		940	1,595,000				
Total—Rollers and Compactors		7,493	\$26,594,000	10,603	\$35,039,000	9,299	\$32,292,000
Total—Ditchers, Trenchers, Scrapers, Rollers, etc.			\$28,594,000		\$104,803,000		\$86,683,000
MOTOR GRADERS AND LIGHT MAINTAINERS							
Under 75 brake hp.		1,121	6,397,000	1,018	5,074,000	1,049	5,375,000
75-114 brake hp.		918	11,034,000	986	11,720,000	944	10,326,000
115 brake hp and over		5,870	77,953,000	5,517	79,033,000	4,859	65,805,000
Total—Motor Graders		7,909	\$95,384,000	7,521	\$95,827,000	6,852	\$82,016,000
CONSTRUCTION MACHINERY, for mounting on Tractors							
Side booms or pipehandlers		211	1,066,000	302	1,570,000	450	2,457,000
Dozers (8' blade and over)		15,262	31,841,000	23,574	41,677,000	18,614	31,476,000
Backhoes		9,575	20,435,000	14,711	28,291,000	10,031	18,873,000
Front-End Loaders (¾ cu. yd. and over)		15,021	11,280,000	21,354	17,029,000	13,657	9,581,000
Power Control Units		20,890	27,815,000	19,746	22,850,000	17,173	18,220,000
Rippers and Rooters		20,008	7,811,000	4,811	7,549,000	4,113	5,530,000
Total—Machinery for Mounting on Tractors			\$100,248,000		\$118,966,000		\$86,537,000
PORTABLE WATER-WELL AND BLAST-HOLE DRILLS							
		626	12,292,000	343	4,419,000	N.A.	N.A.
TOTAL—CONSTRUCTION MACHINERY							
			\$1,511,940,000		\$1,722,710,000		\$1,400,215,000

N.A.—Not available.



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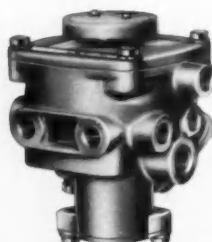


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R-5 RELAY VALVE—New design, high capacity, piston type with replaceable insert. Superior performance and reliability. Responds immediately to all application and release pressure demands.



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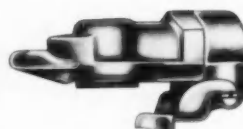
TC-2 BRAKE VALVE—Trailer control valve accommodates any mounting requirement . . . steering column, remote, or dash . . . conventional or dished wheel. Replacement insert for simple maintenance.



QR-1 QUICK RELEASE VALVE—Quieter, faster. Low pressure differential and increased exhaust capacity. Performance characteristics help cut brake lining wear.



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ALUMINUM HOSE COUPLING—Lighter in weight. Will not chip, crack, or bend. Stainless steel contact strip assures long service life. Interchangeable with all other types.



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1 NEW STEEL OR ALUMINUM, FRAME OR FRAMELESS DUMP TRAILERS in a wide range of capacities from 14 to 36 cubic yards. Front mounted telescopic hoist has 30 ton capacity, with 50° dump angle. Body has 3" deep hat section stiffeners on 18" centers, with boxed rails. Sloping, double-acting tailgate is air-released.



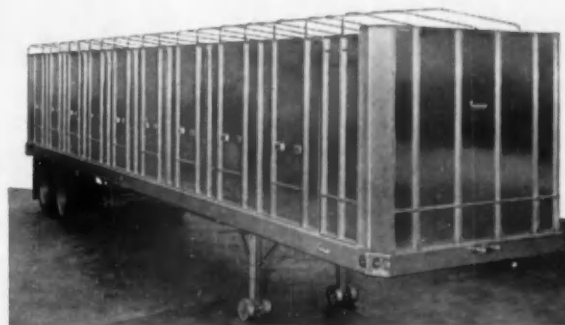
Rugged New Fruehauf Dumps Handle Your CONSTRUCTION JOBS BETTER!



2 MEDIUM-DUTY "WORKHORSE" STEEL PLATFORM—26% increase in load-to-weight ratio. Extra weight savings permit gross capacity payloads to 45,000 pounds. Choice of side rail and pocket options. Wide choice of lengths and suspensions.



3 HEAVY-DUTY "WORKHORSE" STEEL PLATFORM—Rugged bridge-type construction for payloads up to 50,000 pounds. Pine, composite, or all-aluminum floors available. Wide choice of lengths and suspensions.



4 NEW HEAVY-DUTY ALUMINUM PLATFORM—800 pounds lighter than a comparable steel platform! Designed to give operators maximum payload per trip with weight-saving aluminum. Removable interlocking side panels are available in 84", 72" and 48" heights. Complete range of length and suspension options.



"ENGINEERED TRANSPORTATION"
—The Key to Transportation Savings

FRUEHAUF TRAILER COMPANY

10940 Harper Avenue • Detroit 32, Michigan

Please send me complete information on Construction Unit checked.

1

2

3

4

Name _____ (please print)

Company _____

Address _____

City _____ State _____

**AT ROCHESTER GAS
& ELECTRIC COMPANY**



Du Pont TELAR[®] has stopp anti-freeze installation

"With a fleet of 500 trucks and service cars," says Mr. W. Streitle, Assistant Transportation Superintendent, "there was a lot of anti-freeze going down the drain each year, or a lot to store when we re-used it. Since we put TELAR in all of our cooling systems last summer, we no longer have this problem. Now we just leave it in, check it every 4,000-6,000 miles and save the cost and the time of draining in the spring and installing anti-freeze in the fall."

A further analysis was made of R. G. & E. fleet cooling-system maintenance and anti-freeze costs for previous years. Evidence disclosed that the savings for just one year

with TELAR were more than its initial cost. Because Du Pont TELAR anti-freeze and summer coolant has a new super-strength rust inhibitor, it *can* be used safely summer and winter, year after year in a properly operating cooling system.

You, too, can start to get these savings whether your fleet is large or small. TELAR offers you these additional advantages, too:

1. Complete protection from rust and corrosion.
2. Easily installed, just as you do ZEREX and in the same proportion.
3. Has no oily film . . . does not attack rubber or clog cooling systems.
4. Recommended for aluminum engines and parts.

ed the cost of seasonal and drain-out.

Telar HAS A NEW LOW PRICE—SAVES YOU MONEY TWO WAYS

Before you order anti-freeze for 1961, make sure you hear about how Du Pont TELAR can save you money by lowering annual anti-freeze costs and eliminating costly drain-outs.

Here's how you can save money with TELAR:

- ☐ **New Low Price**—talk to a Du Pont anti-freeze salesman about the new low price before ordering your '61 anti-freeze.
- ☐ **TELAR can be left in the radiator** winter and summer, year after year . . . cuts anti-freeze costs over the long term.
- ☐ **Costly downtime is eliminated** during fall anti-freeze installation . . . in the spring for drain-out.
- ☐ **Install TELAR once** and then check it occasionally.
- ☐ **TELAR has a super-strength rust inhibitor** that protects against rust and corrosion . . . saves on cooling-system repairs and damage.
- ☐ **The Color Check feature** in TELAR assures you the super-strength rust inhibitor is continually doing its job. Ask your Du Pont anti-freeze salesman for details.



Telar[®]

ANTI-FREEZE AND SUMMER COOLANT

Most Economical Protection You Can Buy



REG. U. S. PAT. OFF.

Better Things for Better Living . . . through Chemistry



Meet Mohawk's Mighty Mo

The new cross-lug truck tire that costs less...when you buy it...when you run it.

If you use cross-lug tires on your fleet, investigate this new Mighty Mo. Here is a tire as tough and rugged as its namesake. Here is tire power that delivers unsurpassed traction, that will roll up twice the mileage of ordinary tires, that will keep your equipment on the go earning money.

The Mighty Mo is first quality throughout. Its tread is compounded from the newest, finest quality materials, 81% deeper than ordinary truck tires, designed to minimize road scrubbing, for less heel and toe wear. Its Moflex carcass is 100% nylon construction, built to take recap after recap.

Right now, your Mohawk dealer is featuring the Mighty Mo at attractive prices. Ask him to quote on your fleet. You'll not only reduce your cost-per-mile, you'll save on your original purchase. See him today.



MOHAWK

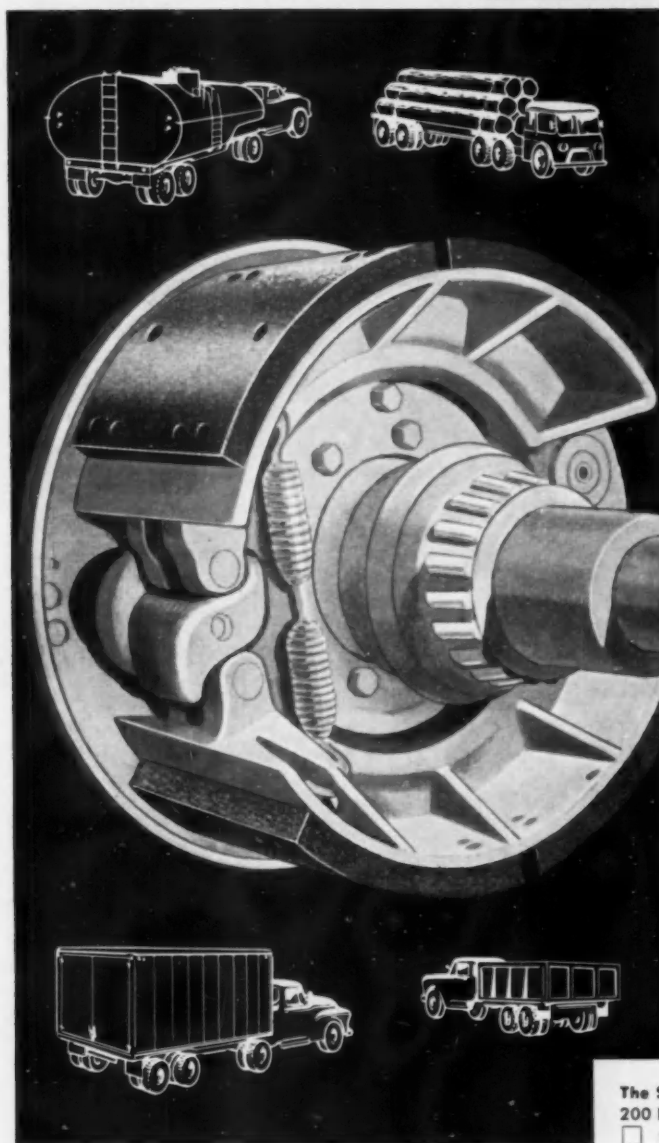
The Mohawk Rubber Company, Akron 5, Ohio

Plants in Akron, Ohio • Helena, Arkansas • Stockton, California

for heavy-duty safety and economy

Velvetouch Feramic

all-metal brake blocks *brake best where others fail*



If you've never used all-metal brake blocks, you owe it to your drivers, your operating budget and yourself to try them today.

Velvetouch Feramic—the first and only (since 1954) all-metal blocks in widespread, heavy-duty commercial use—guarantee you safer operation.

- No speed fade • No heat fade
- No water fade • No downhill fade
- Longer drum life • Lower cost per mile

On heavy-duty jobs or regular runs . . . turnpikes, mountain roads, deserts, coast-to-coast . . . truckers report superior performance.

Typical is this comment by the superintendent of a prominent over the highway carrier: "We get more miles than asbestos blocks. But, most of all, our drivers like the safety and no-fade features of Velvetouch Feramic. We save money, too, with fewer drum replacements."

Remember, Velvetouch Feramic is safer for every vehicle—large or small. No brake job is too tough for Velvetouch. And—it's priced competitively with best grades of asbestos linings.

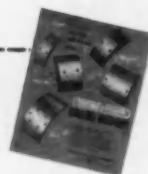
THE S. K. WELLMAN COMPANY
Bedford, Ohio

In Canada: The S. K. Wellman Co. of Canada, Ltd.,
208 Bartley Drive, O'Connor Depot,
Toronto 16, Ontario.

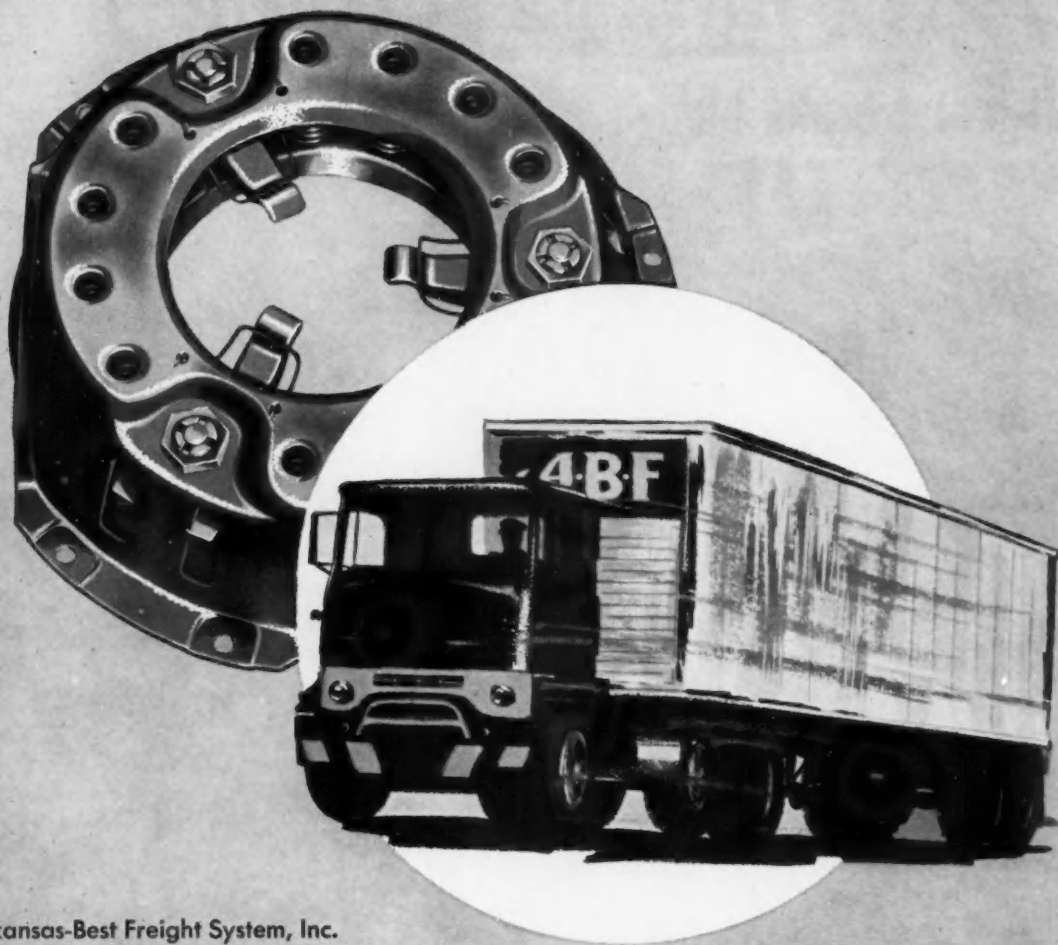
A-5108A

The S. K. Wellman Company
200 Egbert Road • Bedford, Ohio
☐ Send free literature on Velvetouch Feramic.
☐ Have representative call and explain why
Velvetouch Feramic is SAFER.

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____ PHONE _____
CITY _____ ZONE _____ STATE _____



In the Lipe Spotlight...



Arkansas-Best Freight System, Inc.
Fort Smith, Arkansas

"LIFE CLUTCHES

cost only 1/20¢ per mile over 3-year period! "

"With a fleet of 627 power-units to keep rolling, we are very cost-conscious at A-B-F," says vice-president Harry B. Fink, director of maintenance for Arkansas-Best Freight System and Healzer Cartage Company.

"Our records show that over the last three years the cost per mile per clutch on 170 Lipe-equipped tractors was only one-twentieth of a cent.

"Lipe is by far the best clutch for our road tractors because of trouble-free, high-mileage performance." Mr. Fink adds, "Most clutches in these units run in excess of 300,000 miles."



From coast to coast, fleet operators who keep costs in line and trucks on the road know

LIFE DELIVERS IN THE CLUTCH

© LIPE — ROLLWAY CORPORATION, SYRACUSE, NEW YORK



This is the only Impact Wrench

that has the GUTS to prove
its maintenance costs peanuts!

Take an Impact Wrench that's built with extra ruggedness clear through. Take a Factory Service Branch network that keeps accurate repair records. Result: *proof positive* that Black & Decker Impact Wrenches have a phenomenally low maintenance cost.

No other Impact Wrench approaches the Black & Decker because no other Impact Wrench can match the power, speed and maintenance-free construction of a Black & Decker. From drive spindle to reversing ring, every part has been designed to eliminate breakdown problems.

Wherever a bolt must be spun—in motor, drive-line or body work, wheel changes, and general maintenance



Black & Decker

WORLD'S LARGEST MAKER OF POWER TOOLS

More details? Circle 161 on reply card inside back cover

—a Black & Decker Impact Wrench does the job faster, with less fatigue, for more profit. Mail the coupon or call your Black & Decker jobber for a free demonstration. They're sold at most B&D jobbers for low monthly payments. For sales or service, look in the *Yellow Pages* of your telephone book under



THE BLACK & DECKER MFG. CO., Dept. 3408
Towson 4, Md. (In Canada: Brockville, Ont.)

- ☐ Please arrange a demonstration of a B&D Impact Wrench.
☐ Please send additional information on

Name Title

Company

Address

City Zone State



☐ Belt Sanders



☐ Polishers



☐ Valve Refacers



☐ Drills

**FOR:
HAULING
WINCHING
DELIVERING
PUSHING
PULLING
POWERING
ON ROAD
OFF ROAD
ALL WEATHER
SERVICE,**

GET A

Jeep® FLEET!

If there's a job to be done, there's a 'Jeep' vehicle to do it. A tremendous array of 'Jeep' approved special equipment handles thousands of specialized jobs. Traditional 'Jeep' ruggedness keeps 'Jeep' vehicles on the job years

longer in any kind of weather, in any kind of "going" ☐ A 'Jeep' fleet is a sound business investment. Initial cost is low. Maintenance costs are low. And resale value is amazingly high. In fact, a two year old 'Jeep' Universal sells

for up to 90% of original list price ☐ Find out about the 'Jeep' vehicles that are specifically designed to meet your needs. Write to R. J. Kreusser, Fleet Sales Manager, Willys Motors, Inc., Toledo 1, Ohio.



'JEEP' FLEETS—FROM THE WORLD'S LARGEST LINE OF 4-WHEEL DRIVE VEHICLES

Willys Motors, Inc., Toledo 1, Ohio. One of the growing Kaiser Industries.

AN "ORIGINAL" STORY BY HOLLEY!

Thirty-Eight Engines in Leading 1961 Trucks Have Holley Carburetors as *Original Equipment*

Efficient performance under all conditions of road, load and weather, maximum fuel economy, and—above all *dependability*—are qualities truck manufacturers demand in every carburetor. Ability to deliver precision-built carburetors which meet these exacting requirements is the reason why Holley Carburetors are *original equipment* on 38 of the finest truck engines available in 1961, including those of one make not shown.



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WHITE



HOLLEY
Carburetor Co.

IT WILL PAY YOU IN PERFORMANCE TO
REPLACE WITH GENUINE HOLLEY PARTS—
MADE TO ORIGINAL EQUIPMENT
SPECIFICATIONS!

11955 E. Nine Mile Road, Warren, Michigan

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SEE YOUR AUTHORIZED HOLLEY DISTRIBUTOR OR DEALER—LISTED IN THE YELLOW PAGES

This Stainless Steel oil ring cuts your cost per mile



U. S. Pat. No. 2,789,872



YOU CAN up your profit three ways with Sealed Power Stainless Steel oil rings: slash operating costs . . . trim downtime . . . reduce maintenance expense.

Sealed Power Stainless Steel oil rings hug cylinder walls, control oil better and longer than any other oil ring ever developed, bar none. Stainless Steel retains tension at high temperature far better than carbon steel.

Your trucks keep on earning, stay out

of the shop because oil rings of this modern "miracle metal" last longer, engines live longer . . . maintenance expense dips.

Stainless Steel won't rust or corrode, it resists pitting and etching of gases so carbon doesn't cling, return oil vents stay clean and free.

With Sealed Power Stainless Steel oil rings, you're money ahead because cost per mile comes down. Sealed Power Corporation, Muskegon, Michigan.

Sealed Power Stainless Steel oil rings stop oil pumping

PISTONS • PINS • SLEEVES AND SLEEVE ASSEMBLIES • VALVES • WATER PUMPS • TAPPETS

1961 New Truck Registrations*

STATE		Brockway	Chevrolet	Diamond T	Dodge	Ford	G.M.C.	International	Mack	Studebaker	Volkswagen	White	Willlys	Jeep	Truck	All Others	Total	
Alabama	May	482	1	62	416	98	111	20	5	38	27	2	7	4	1,282			
	5 Mos.	2419	10	413	1971	572	635	83	18	221	151	29	32	39	6,584			
Alaska	May	48		2	29	34	30							2	147			
	5 Mos.	138		10	32	40	43							8	373			
Arizona	May	327		90	331	67	107		1	19	14	1	3	5	563			
	5 Mos.	1803	1	286	1477	322	337	3	30	93	34	26	60	68	4,340			
Arkansas	May	454		41	340	76	100	3	6	12	5	2	3		1,042			
	5 Mos.	2543	2	205	2255	495	581	18	25	90	15	21	13	3	6,235			
California	May	3281	15	398	3094	562	909	15	70	368	112	130	61	141	9,146			
	5 Mos.	13108	57	1848	13995	2599	3077	86	285	1713	329	328	302	647	38,254			
Colorado	May	457		56	447	100	208	2	21	20	10	50	79	13	1,498			
	5 Mos.	2061	8	402	1895	489	770	16	74	86	46	191	199	87	6,324			
Connecticut ¹	May	294		36	185	70	173	13	5	67	30	25	110	12	944			
	5 Mos.	2	678	16	125	600	227	496	41	12	151	84	81	387	41	2,941		
Delaware	May	76		1	12	80	23	35	5		5	13	10	3	1	244		
	5 Mos.	1	324	4	46	265	83	139	40	2	14	63	17	19	5	1,022		
District of Columbia	May	100		1	21	106	34	13	6		15	6	2	3	1	308		
	5 Mos.	313	6	75	311	115	117	35	1	57	11	12	15	19	1,087			
Florida	May	608		71	902	149	167	33	23	124	27	32	50	18	2,212			
	5 Mos.	11	3108	21	270	3875	782	799	164	79	496	110	117	304	130	10,275		
Georgia	May	606		4	603	148	191	31	7	47	36	11	14	8	1,962			
	5 Mos.	3372	25	363	3865	828	985	169	33	264	122	32	56	29	9,935			
Hawaii	May	34		2	47	10	17			1	14	2	12	14	7	162		
	5 Mos.	192	4	46	275	74	83			2	62	5	30	72	37	685		
Idaho	May	218		39	189	52	116	8	9	7	1	5	18	5	667			
	5 Mos.	915	1	109	765	309	429	23	36	45	7	20	93	60	2,872			
Illinois	May	985		2	143	934	206	821	9	14	97	66	15	29	3,056			
	5 Mos.	4788	67	626	4140	967	2132	112	73	464	311	117	229	185	14,211			
Indiana	May	749		7	115	659	219	328	64	31	63	64	15	21	2,383			
	5 Mos.	2711	18	374	2386	711	1133	156	85	205	196	43	114	89	8,182			
Iowa	May	503		43	446	67	239	3	16	33	14	6	10	7	1,387			
	5 Mos.	2323	14	276	2477	447	1168	14	48	145	62	24	58	40	7,094			
Kansas	May	1136		6	139	969	251	357	1	10	32	11	4	23	4	2,943		
	5 Mos.	2275	17	252	2038	577	714	12	32	66	40	12	61	17	6,112			
Kentucky	May	394		39	316	90	114	7	3	17	17	1	10	1	1,007			
	5 Mos.	1891	9	160	1599	409	541	31	11	76	43	14	71	11	4,826			
Louisiana	May	506		1	30	491	62	144	7	3	43	17	6	5	1,406			
	5 Mos.	2901	13	274	2624	566	563	28	19	199	42	38	40	24	7,128			
Maine	May	166		19	126	43	142	1	1	23	12	8	19	9	571			
	5 Mos.	4	575	64	483	176	345	15	10	74	21	27	87	30	1,912			
Maryland	May	3	345	3	58	409	60	153	27	18	35	31	30	14	1,293			
	5 Mos.	18	1365	10	207	1841	304	588	93	34	165	144	105	152	40	8,062		
Massachusetts	May	7	399	2	66	411	132	206	30	4	139	43	43	62	29	1,673		
	5 Mos.	21	1273	14	234	1414	412	782	94	21	335	111	75	329	55	5,170		
Michigan	May	2	974	8	210	1084	230	302	11	27	90	56	16	18	3,047			
	5 Mos.	3	4029	46	663	4382	1050	979	67	73	349	157	81	171	128	12,176		
Minnesota	May	780		83	693	108	299	4	21	54	8	4	21	14	2,108			
	5 Mos.	2643	8	343	2845	487	841	51	78	173	48	18	73	60	7,433			
Mississippi	May	434		22	318	76	93	5	2	2	2				977			
	5 Mos.	1942	1	101	1725	394	475	21	19	82	7	9	24	4	4,804			
Missouri	May	760		9	71	527	144	249	15	8	23	32	4	13	6	1,860		
	5 Mos.	3070	25	286	2303	710	955	47	40	87	89	32	63	22	7,729			
Montana	May	241		1	25	299	45	125	8	3	10	1	5	20	10	753		
	5 Mos.	882	8	137	989	238	471	28	18	48	9	19	102	82	3,002			
Nebraska	May	306		48	372	79	146	9	4	12	19	5	6	12	1,022			
	5 Mos.	1671	10	190	1770	417	704	42	1	22	65	25	67	47	5,128			
Nevada	May	81		14	53	24	22			1	18	34	3	19	2	565		
	5 Mos.	424		65	327	123	125			18	34	3	11	11	1,165			
New Hampshire	May	117		16	104	28	64	8	7	20	4	11	11	4	382			
	5 Mos.	4	418	5	52	382	120	220	37	14	92	14	32	103	21	1,514		
New Jersey	May	10	535	13	148	739	225	337	60	5	94	92	35	70	27	2,390		
	5 Mos.	80	2654	62	484	3091	861	1344	303	33	418	265	246	569	171	10,881		
New Mexico	May	312		39	390	78	80	3	27	8	6	8	11	1	963			
	5 Mos.	1358		147	1215	294	263	11	59	38	22	39	48	21	3,515			
New York	May	26	1251	12	260	1138	358	136	17	157	114	39	122	34	4,319			
	5 Mos.	138	8448	44	1081	5847	1713	3301	486	881	625	394	238	289	20,384			
North Carolina	May	571		2	80	800	180	199	19	14	30	98	14	9	1,956			
	5 Mos.	3	3205	14	267	3816	777	876	114	132	153	168	58	78	41	9,502		
North Dakota	May	148		3	30	173	24	80		7	1		1	3	2	470		
	5 Mos.	617	18	124	624	141	355			17	14	2	3	11	8	1,934		
Ohio	May	2	1033	6	156	947	284	380	44	18	55	95	47	45	41	3,133		
	5 Mos.	4	4448	20	633	4793	1133	1821	189	76	304	377	179	286	136	14,379		
Oklahoma	May	1816		1	106	1335	319	323	16	14	33	43	7	18	6	4,040		
	5 Mos.	3377	21	217	2812	553	702	36	20	73	71	100	16	36	21	7,782		
Oregon	May	514		11	41	142	262			45	29	10	29	17	1,505			
	5 Mos.	1	1996	21	251	1809	617	748	82	174	280	158	53	147	151	6,560		
Pennsylvania	May	11	875	5	192	902	260	506	118	30	64	79	62	176	22	3,302		
	5 Mos.	50	3905	46	742	3899	1067	1917	414	109	324	342	493	954	178	14,440		
Rhode Island	May	51		3	89	12	64	3	1	19	14	26	6	2	289			
	5 Mos.	235		34	390	74	232	29	4	88	39	34	32	24	1,186			
South Carolina	May	279		37	396	64	68	7	3	23	7	4	4	1	893			
	5 Mos.	1218	2	148	1640	286	282	46	15	99	38	18	18	3	3,811			
South Dakota	May	141		21	165	28	102			9	13		1	6	488			
	5 Mos.	874	3	183	867	178	989	8	29	44	12	23	32	25	2,888			
Tennessee	May	479		1	65	407	102	150	14	3	29	64	8	6	1,330			
	5 Mos.	2403	3	270	2390	547	685	89	26	117	141	45	41	17	6,894			
Texas	May	3360		8	283	2415	832	726	17	42	149	96	36	46	4	7,758		
	5 Mos.	12757	27	1055	9620	1967	2378	111	167	445	305	152	149	169	29,302			
Utah	May	181		67	199	99	99	3	1	4	7	2	28	2	622			
	5 Mos.	813	5	216	830	273	277	11	6	55	35	25	51	13	2,610			
Vermont	May	3	109		12	114	40	68		3	50	5	19	27	14	471		
	5 Mos.	7	246		36	279	96	146	10	9	122	8	48	79	23	1,111		
Virginia	May	511		8	632	137	219	29	7	57	14	22	27	14	1,745			
	5 Mos.	1	2014	5	450	2347	585	754	82	43</								

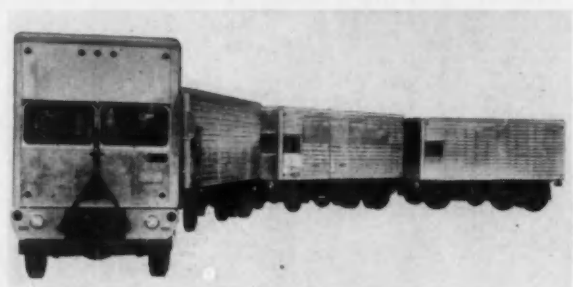


in trucks and tractors



Multi-stop delivery trucks produced by Divco Truck Division, Detroit, Mich., now offer diesel engines as regular production options. Both Snub-Nose house-to-house delivery trucks and larger Dividend models feature factory-installed Perkins four- and six-cyl diesel engines. Divco recommends the 305-cu in., 6-cyl engine for trucks of 10,000 lb GVW and over and for long-haul operation. The 203-cu in., 4-cyl model is for delivery units under 10,000 lb GVW and for routes involving long idling periods.

To get more details, circle 460 on reply card



Self-powered, multiple-unit truck for both city pickup and delivery and intercity operations is the Wolfwagon made by St. Louis Car Co., St. Louis, Mo. A special coupling device and control cables are said to permit a train of these trucks to be operated as one unit by one driver in the lead truck. Individual units can be dropped off en route or separated at destination for use as city-sized pickup and delivery trucks. Equipped with gasoline or diesel engines, Wolfwagons are said to feature power units and braking that work together when trucks are coupled.

To get more details, circle 461 on reply card



in fleet cars

All-new limousine called the Aerobus by Checker Motors, Kalamazoo, Mich., comes in either a 9- or a 12-passenger model. Said to be specially-designed for comfort and convenience in multiple-passenger transportation, it features a flat floor, chair-high foam-rubber-padded seats, ample leg room, and high wide doors for easy entrance and exit. Maker says the 40-ft cargo area offers maximum protection to baggage from weather and damage.

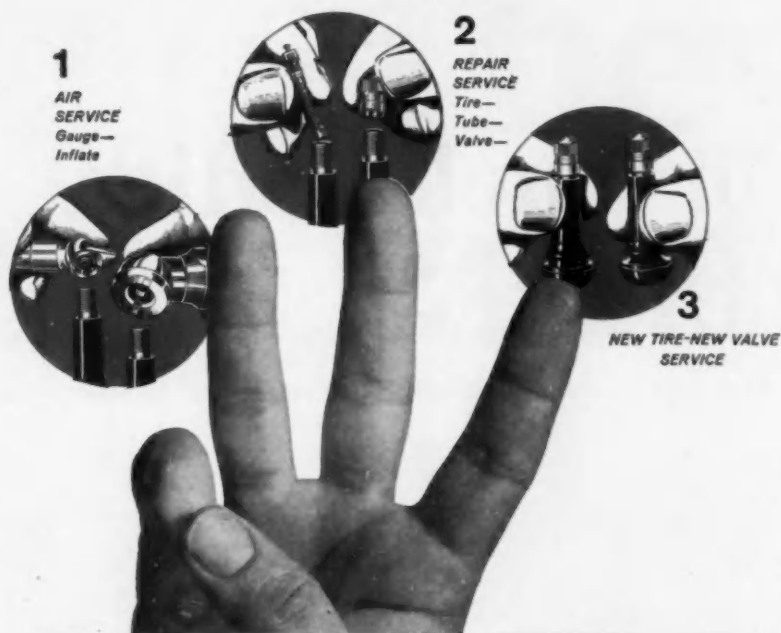
For further details, circle 300 on reply card



New police car for highway patrol use is the Enforcer just introduced by Chrysler and Imperial Division, Detroit. On 122-in. wheelbase, the special-purpose 4-door sedan has a 325-hp, 383-cu in. engine and full range of heavy-duty equipment designed for police work, says Chrysler. Standard features include a heavy-duty 40-amp alternator, 70-amp hr battery, extra-large 12-in. brake drums with special lining, and extra-heavy-duty manual transmission.

For more information, circle 301 on card





Get ALL the performance built into your tires... with Schrader's **TIRE-LIFE EXTENSION*** plan

Catching even one flat before it happens on the road can mean a fat profit. And it's simple! Tire-Life Extension practices are easy flat insurance. Just gauge every tire daily... accurately... and keep records. Any unreasonable drop in pressure is a danger signal. Heed it! Fix it! The money you save over a costly road repair is better on the profit side of the ledger.

But equip yourself with the best. Schrader pocket gauges, dual foot truck gauges, and chuck gauges are accurate tools for profit. And you know they're correct if you certify the accuracy of all your air equipment regularly with the Schrader Trutest Special. All Schrader products have the extra built-in quality that makes Tire-Life Extension a real money saving plan.



*What is the TIRE LIFE EXTENSION plan? Simply applying the three handy practices shown above. By using this plan as a steady policy fleets benefit three ways: 1. Fewer flats on the road. 2. Full mileage and performance from all tires. 3. Lower operating, maintenance and tire costs.

Schrader
a division of **SCOVILL**

A. SCHRADER'S SON • BROOKLYN, 38, N. Y.
Division of Scovill Manufacturing Company, Inc.

FIRST NAME IN TIRE VALVES
FOR ORIGINAL EQUIPMENT AND REPLACEMENT

Made in America to American standards of quality by American craftsmen



in truck bodies

Fold out reply cards inside back cover. Use them to find out more about all the items that interest you



Emergency-planned body for rescue and fire-fighting support use is from Reading (Pa.) Body Works. Equipment includes a 1500-watt generator to power searchlights and rescue tools, compartments for rescue equipment, shelter and stretcher for disaster victim, water tanks for grass fires and combined siren and PA system.
For more details, circle 360 on card



Aluminum body kits from Lyncoach & Truck Co., Oneonta, N. Y., now offer complete floor assemblies and optional steel rear frames in addition to previous sides, roof, front and rear ends, and doors. Floor assemblies are 1½-in. grain laminated oak on 4-in.-high steel cross members with 5-in.-high side channels.
For more details, circle 361 on card

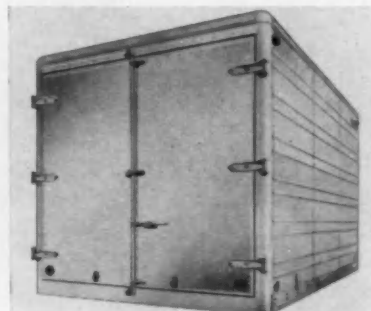


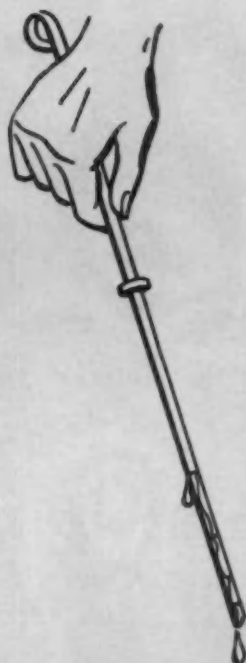
Street-sweeper body built by Universal Metal Fabricators, Saginaw, Mich., is on a Dodge D-400 chassis. It features cab-controlled hydraulic operation. Maker says it can travel up to 55 mph, has sweeping speed of 1½ mph. It has a 4-yd rear dumping hopper and carries 265 gal of water for atomized spraying.
For more details, circle 362 on card

Aluminum van bodies from Dorsey Trailers, Mobile, Ala., are now offered in a new series of exterior-post models. Like the company's "Champ" smooth-exterior units, the new body is said to be a light-weight, monocoque structure. Inside measurements are up to 91½ in. wide, 84 and 90 in. high, 9-24 ft. long.
For more details, circle 363 on card

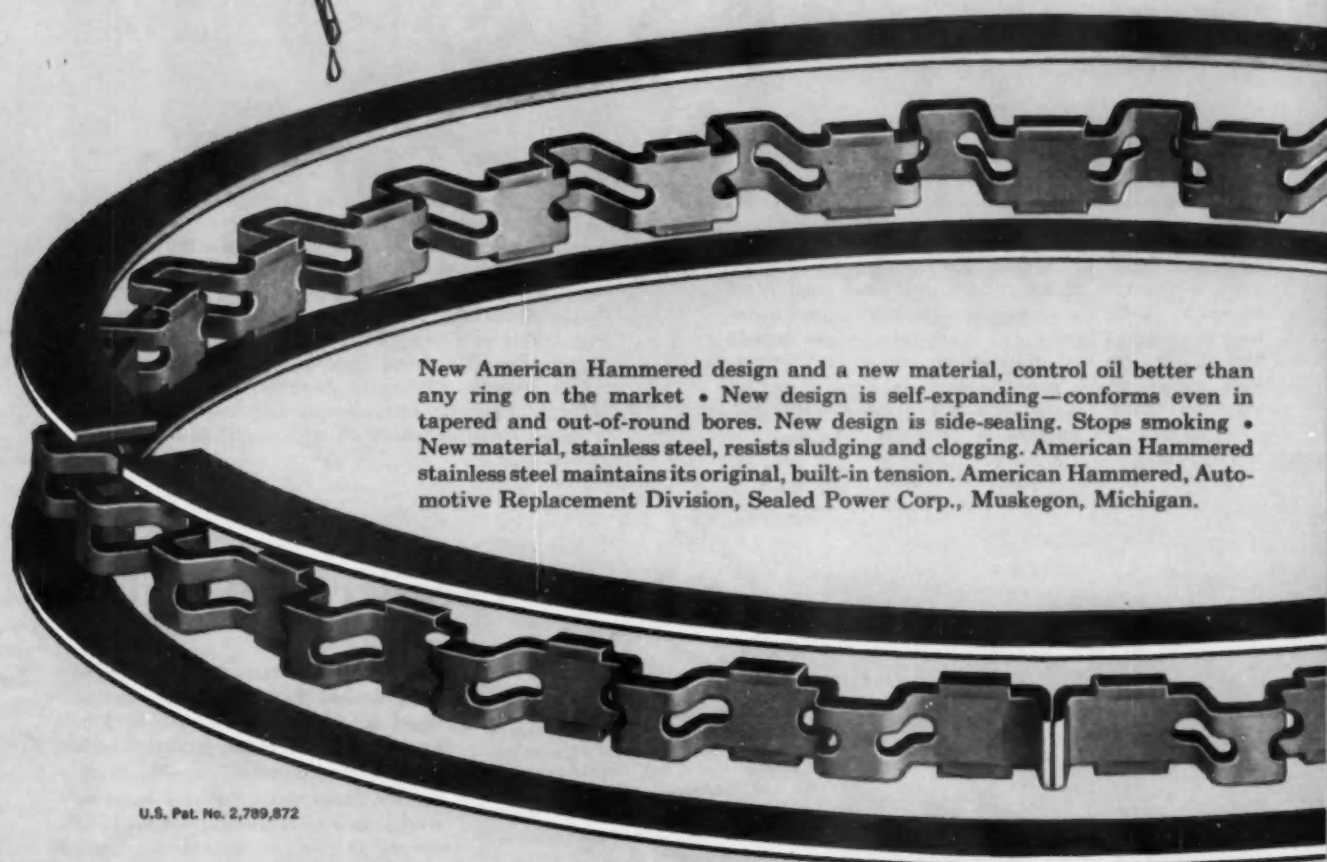
Aluminum delivery body from J. B. E. Olson Corp., Garden City, N. Y., is said to feature new styling and large display panels. The Olsonette comes 7- and 8-ft lengths on 96-in. wheelbase and 8- and 9-ft lengths on 102- or 104- in. wheelbase. Inside loadspace measures 74 in. wide and 66½ in. high.
For more details, circle 364 on card

Aluminum van body kit line from American Body & Trailer, Oklahoma City, Okla., now includes a new 96-in.-wide, high-volume van. In lengths from 12 to 20 ft, the kit features inside width of 90¼ in. and inside height of 88 in. Options offered include 2- and 4-panel rear doors or side and rear refrigerator doors.
For more details, circle 365 on card





They control oil



New American Hammered design and a new material, control oil better than any ring on the market • New design is self-expanding—conforms even in tapered and out-of-round bores. New design is side-sealing. Stops smoking • New material, stainless steel, resists sludging and clogging. American Hammered stainless steel maintains its original, built-in tension. American Hammered, Automotive Replacement Division, Sealed Power Corp., Muskegon, Michigan.

U.S. Pat. No. 2,789,872

AMERICAN HAMMERED



stainless steel oil rings



in trailers

Fold out reply cards inside back cover. Use them to find out more about all the items that interest you



Lightweight, 40-ft flatbed trailer just announced by Wilson Trailer Co., Sioux City, Iowa, is the new Model OFT. Constructed entirely of hi-tensile steels, the unit is said to have concentrated load capacity of over 45,000 lb. Empty weight is only 9850 lb complete with standard equipment and tandem, says maker. Stake pockets on 24-in. centers permit easy conversion with stock racks or grain sides.

Circle 302 on card to get more details



Aluminum trailer body replacement kits are prefabricated units just made available by Lyncoach & Truck Co., Oneonta, N. Y. Designed to replace damaged or outdated trailer bodies, Lyn Volumetric repair trailer kits can be mounted on any type chassis, says maker. Aluminum beaded-panel and smooth-skin models come in 15 lengths from 26 to 40 ft. Kits include sides, roof, ends, doors, lights and reflectors.

To find out more about kits, circle 303



Aluminum frame dump on left is said to provide lower per-mile hauling costs. Steel frameless unit on right has front-mounted, 30-ton capacity telescopic hoist

For more details, circle 306



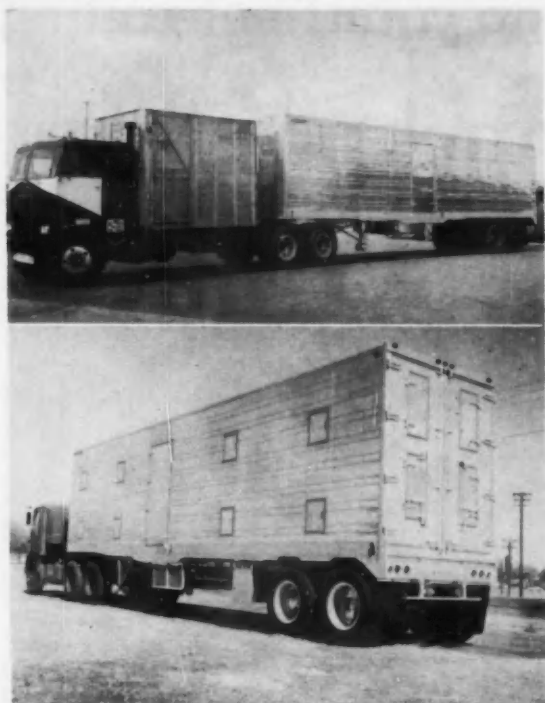
Aluminum refrigerated Volume* Van is equipped with new foamed-in-place "F" insulation for safe transport of perishable cargoes at temperatures down to 0 deg F

Circle 307 for further details

Six new trailers are added

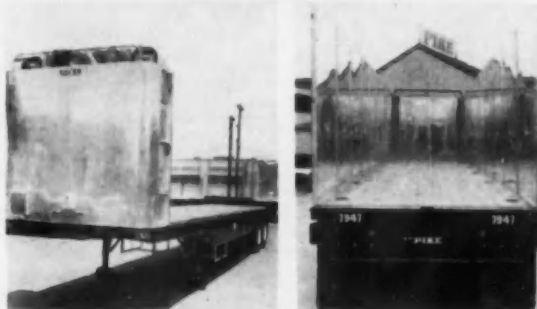
SIX NEW trailers just announced by Fruehauf Trailer Co. for various types of fleet operation are said to provide lighter weight, extra strength and bigger payloads.

- Two dump units, in aluminum or steel, frame or frameless design, have special sidewall stiffeners for body protection. Aluminum frame dump, in 14 or 22 cu yd capacity, has front-mounted hoist and 12-in. radius from floor to sidewall for cleaner discharge of payload.
- Frameless steel dump trailer has 30-ton capacity, front-mounted, telescopic hoist with 50-deg dumping angle and an air-operated, sloping, double-acting tailgate. Capacities range from 14 to 36 cu yds.



Livestock trailer hauls produce on return trip, says American Body & Trailer Co. Two types of "Cow Palaces" have bunker-blower cooling, are fully insulated to carry produce. Aluminum lining, guttered floors and drains in four corners of van permit quick steam cleaning after livestock haul. Insulated air-vent doors are opened or removed for livestock, sealed shut for produce. Both types have icing doors at front and rear. Upper unit has inside fans for circulating chilled air. (Note separate bullpen mounted on the tractor.) Lower model has nose-mounted blower for chilling.

Want more information? Circle 304 on reply card



Open-top dry-freight van converts to a flatbed trailer in just 20 minutes, according to its manufacturer, Pike Trailer Co., Los Angeles, Cal. Removable aluminum side panels permit a wide variety of uses of the 40-ft, tandem-axle unit. For example: As a flatbed, it can haul up to 30 tons of heavy machinery one way—then, assembled as a van, it can transport 2625 cu ft of dry freight on the return trip. The 7-ft aluminum side panels store in a front compartment when not in use. Maker says the complete unit weighs only 10,560 lb when empty.

For further details, circle 305 on reply card

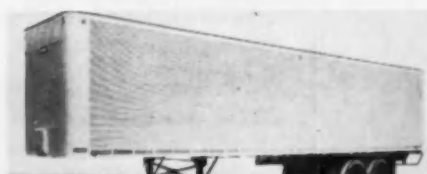
to Fruehauf line

- Aluminum Volume*Van reefer unit features foamed-in-place insulation that's said to permit cargo hauling at temperatures down to 0 deg F.
- Exposed-post aluminum Volume*Van is said to have full 94-in. inside width and weathertight plastic skylights in roof.
- Hi-tensile steel Volume*Van for use as dry freight van or insulated reefer features high strength, shock resistance, 10-in. radius corners, new finger-spliced hardwood floor and improved lighting system.
- City-delivery Volume*Van is said to have a rugged, protective exterior-post design and special composite hardwood and steel floor to accommodate forklift loading.

Exposed-post aluminum Volume*Van has full 94-in. inside width for more payload. One-in. thick sidewalls are said to be specially-constructed for more strength. To get more details, circle 308

Hi-tensile steel Volume*Van is patterned after Fruehauf's stainless steel unit, but weighs less. It's said to feature increased strength, carry bigger payloads. Circle 309 for more information

City-delivery Volume*Van has upper and lower rub rails, integral dock bumper with tread plate and choice of chain gate, curtain or roll-up or flat doors. For more details, circle 310



To keep your fleet rolling Let this Champion "know how"



Champion Field Engineer Dave Walker (center) checks ignition performance with Fleet Superintendent Leonard Bartlett (left) and mechanic Frank Goodrich of Franz Bakery Co., Portland, Oregon.

EXCLUSIVE TECHNICAL ASSISTANCE can help you get peak performance with lowest running costs!

Champion operates exclusive "mobile service laboratories" to help fleets solve ignition problems quickly. Armed with latest scientific equipment and technical "know how," highly trained field engineers work right with your mechanics to help you get maximum engine performance with lowest operating costs.

You can put this exclusive Champion "know how" to work for *your* fleet. Just call your Champion Sales Representative or supplier, or write Technical Services Department, Champion Spark Plug Company, Toledo 1, Ohio.



CHAMPION SPARK PLUG COMPANY

with maximum profit...

help you cut operating costs



CHAMPION SERVICE AIDS reduce maintenance costs

The Plug-Scope is an example of Champion service aids designed to save you time and money. With the Plug-Scope, it takes less than 3 minutes to accurately check a full set of spark plugs right in the engine. Simple to operate and fast to connect, it can help reduce expensive downtime in *your* fleet.



QUALITY CONTROL assures you savings through maximum plug life

This technician is checking to see that *exact* temperatures are maintained in the huge kilns that fire Champion insulators to their ultimate high density and strength. Careful control like this assures you of long-lasting quality in *every* Champion spark plug.



TOLEDO 1, OHIO

Other ways Champion helps you cut operating costs

- **SPECIFIC ENGINE DESIGN** means there's a Champion plug type to help give you maximum performance and economy in every one of your engines—regardless of make or model.
- **WIDER PLUG OPERATING RANGE**—hotter in lower power ranges and cooler at peak engine loads—helps you get top performance most efficiently under all kinds of operating conditions.
- **EXCLUSIVE 5-RIB INSULATOR** reduces power-wasting flashover—helps you get fast starting plus long battery life.
- **SPECIAL APPLICATION PLUGS** such as auxiliary-gap, anti-fouling types, can help you cut costly downtime. These special plugs resist fouling often caused by stop-and-go driving and continued idling—require fewer cleanings, less replacement.
- **PRODUCT RESEARCH AND DEVELOPMENT** helps you get longest, most effective plug life in all engines. Champion engineers test all plug types under most severe conditions to assure you best performance at lowest operating cost.

CHAMPION

Service Tips

INSUFFICIENT FUEL PUMP PRESSURE MAY CAUSE SPARK PLUG OVERHEATING

Spark plug overheating—easily detected by "blistered" insulators and badly eroded electrodes—generally is associated with using spark plugs of too hot a heat range, or overadvanced ignition timing.

However, this condition may also be caused by insufficient fuel pump pressure.

A fuel pump operating at too low a pressure may cause a lean fuel mixture at high speed. The resultant combustion chamber starvation may cause overheating of both the spark plugs and valves.

Among the causes of low fuel pump pressure are:

1. Defective diaphragm
2. Dirt in fuel tank
3. Cracked or broken fuel line
4. Loose fittings
5. Worn pump rocker arms
6. Weak diaphragm return spring

A restricted fuel filter in the carburetor may also give the appearance of low fuel pump pressure. Even though pressure is satisfactory, the restriction will not allow enough fuel to enter the carburetor fuel bowl.



in cargo handling

Fold out reply cards inside back cover. Use them to find out more about all the items that interest you



Diesel-electric-powered lift truck with 30-ton capacity permits speeded-up piggyback freight handling service at lower cost, says R. G. LeTourneau, Longview, Texas. The high-capacity lift truck is said to easily pick up, maneuver and relocate a loaded 35-ft trailer or container in piggyback loading and unloading operations. Maker says it's even capable of hoisting the trailer some 20 ft in the air for double stacking on flat cars. The unit is powered by a 275-hp diesel engine turning an electric generator which transmits power to four 75-in., rubber-tired electric wheels. Controls are said to be similar to those on a diesel-electric locomotive.

To get more details, circle 462 on reply card

Five new series of fork lift trucks from Hyster offer 13 model choices

THE FLEET operator can now select the fork lift best-suited to his materials handling requirements, says Hyster Co. in announcing its new series. The five series—two SpaceSaver cushion-tired and three Challenger pneumatic-tired lines—include 13 models with capacities ranging from 2-12,000 lb.

All units have new "Monitrol" control with forward, reverse and throttle in one pedal; dashboard "drive" and park pushbuttons; automatic parking brake; and self-cleaning hydraulic system.

Units with 6000-lb capacity and up feature a two-speed hoist system which is said to sense load weight and automatically adjust carriage speed. Heavy units also offer either powershift transmission or oil clutch with oil-bath lubrication of friction plates and clutch bearings.

Units shown below (as numbered) include:

1. SpaceSaver 20—2000-lb lift with choice of manual or powershift transmission. Its twin is the 2500-lb SpaceSaver 25.

2. SpaceSaver 70—7000-lb unit with

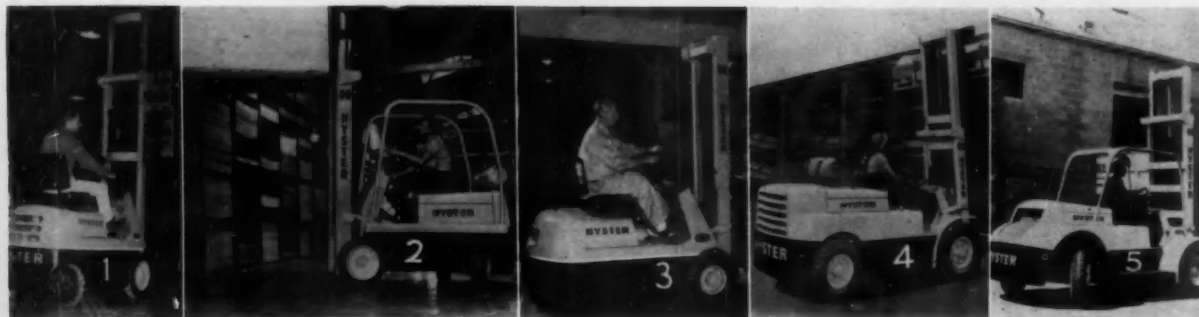
two-speed hoist system. In the same series are fork lifts with capacities ranging from 6-10,000 lb.

3. Challenger 20—2000-lb unit with powershift. Its twin is the 2500-lb Challenger 25.

4. Challenger 60—6000-lb capacity fork lift with two-speed hoist, oil clutch and short turning radius. Same series offers 7-8000-lb units.

5. Challenger 100—10,000-lb lift with two-speed hoist and powershift or oil clutch. This series includes the 12,000-lb Challenger 120.

For more details, circle 366 on card





Hydraulic straddle truck carrier with 25-ton capacity has just been added to the line of Hyster Co., Portland, Ore. Maker says the Model No. M500A has two high-pressure pumps. One powers load lift, the other handles shoe swing and steering. It's said to have equal hydraulic pressure at all four lifting points. A 4-way check valve locks each hoisting cylinder to prevent accidental lowering of load.

For more details, circle 367 on card



Materials handling truck called Crate Mate loads and moves 1000-lb. flush-bottom cases, says Stokvis Multiton Corp., Port Washington, N. Y. In use, handle pushes forward to insert special "tongue" under the load. Then truck body is pushed under tilted crate via rollers. Handle then returns to front of truck to pull load. A sharp tug on handle dislodges crate to slide it from truck over the rollers to unload.

For more details, circle 368 on card



Rider type walkie truck handles two 2000-lb-capacity, 48-in.-long by 40-in.-wide pallets at one time. Maker, Lewis-Shepard Products, Watertown, Mass., offers the duo-pallet-handling, high speed walkie with speeds up to 6.5 mph. Various pallet sizes with total weight up to 4000 lb may be handled by one unit. Electric-powered models are offered with 12-volt plus overdrive or 12-24-volt system.

For more details, circle 369 on card

Materials handling vehicle with 16,715-lb load capacity is the Model No. 620 Economobile. American Road Equipment Co., Omaha, Neb., says the improved unit features a new pump coupling for long life, power steering system with equal turning radius in either direction, and a self-leveling seat to keep operator level when machine is on a slope and which automatically adjusts to operator's weight.

For more details, circle 370 on card

Heavy-duty pallet box designed for stacking is made of all-welded steel by Hugh J. Baker Co., Indianapolis, Ind. Units measure 30 in. high, 36 in. wide, 48 in. long, with skid-type, 4-in.-long legs. Sliding gate on one end permits direct hopper or machine feeding of contents. Grilled end is for easy product identification. When stacked, legs "nest" on top support of underneath unit. Other sizes are made to user's specifications.

For more details, circle 371 on card

Narrow-aisle lift truck called the Model VST Transveyor is fully operational in 6-ft aisles, according to Automatic Transportation Co., Chicago. It's available in 1-, 1½- and 2-ton capacities with lifting heights and straddle arm spreads to suit user's needs. One control handle combines three speeds forward, one reverse, and fork lowering and lifting control. Unit is said to offer many safety features.

For more details, circle 372 on card





1

Excellent thermal qualities

PPG Textrafine is composed of long glass fibers sprayed with a binder and heat-cured to provide a uniform, highly efficient fiber glass insulation with a low *k* factor.

2

Lightweight, easy to handle

PPG Textrafine is flexible, easy to transport, cut and apply. Lightweight factor helps hold down vehicle weight.

3

High tensile strength

PPG Textrafine is non-irritating, chemically inert, has no odor, will not pick up cargo odors. It's vermin proof, too.

NEW FROM PPG: TEXTRAFINE* FIBER GLASS

Look how these PPG Textrafine Fiber Glass features can give you

*Trademark

4

Resilient

PPG Textrafine can take abuse—can be walked on, rolled, folded and compressed—yet always bounces back to its original shape.

5

Moisture resistant

PPG Textrafine is quick draining, quick drying, will not disintegrate from repeated soakings, will not mildew.

6

Clean, odorless

PPG Textrafine's long fibers give the insulation great dimensional stability. Textrafine stays in place, won't shake down, won't sag, won't settle, assures long service life.

7

Fire resistant

PPG Textrafine's glass fibers are incombustible. The binder on the fibers can withstand high temperatures without smoldering.

9

Fast delivery

PPG Textrafine is now in full production, tested in actual operation and ready for your use. You can get immediate delivery from PPG on this excellent new fiber glass insulation to your exact specifications. Samples are furnished on request.

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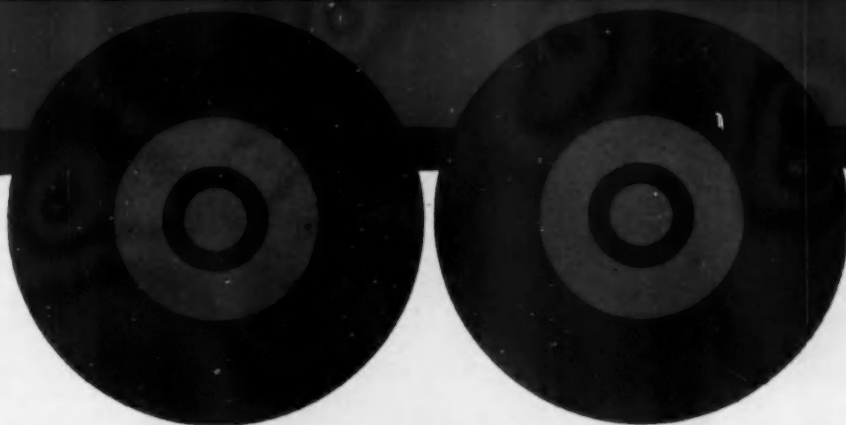
Get full information

on PPG Textrafine Fiber Glass Insulation by writing to *Pittsburgh Plate Glass Company, Fiber Glass Division, One Gateway Center, Pittsburgh 22, Pennsylvania.*

8

Wide range of sizes, densities

PPG Textrafine Fiber Glass Insulation is available in thicknesses from 1/2" through 6" and in densities of 3/4 lb to 3 lb to suit your requirements. All standard widths available.



INSULATION FOR TRAILERS AND TRUCK BODIES

a high quality, economical insulation



fiber glass

...makes things better, safer, stronger, lighter

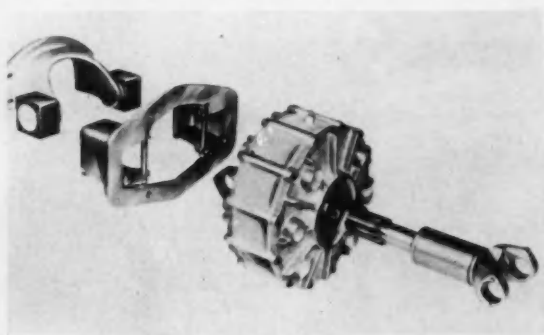
Sales Offices: Atlanta, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Detroit, Houston, Kansas City, Los Angeles, Louisville, Miami, Milwaukee, Minneapolis, New Orleans, New York, Philadelphia, Pittsburgh, St. Louis, San Francisco, and Seattle.

More details? Circle 168 on reply card inside back cover



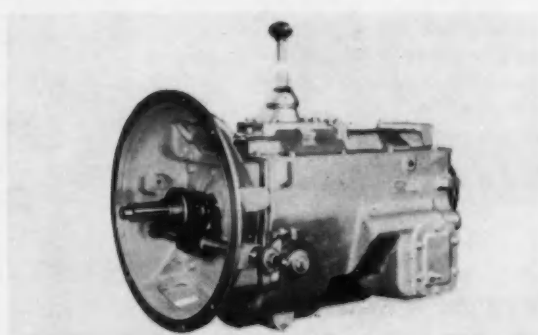
in vehicle accessories

Fold out reply cards inside back cover. Use them to find out more about all the items that interest you



New hydro-dynamic braking unit combines retarder, propeller shaft and mounting bracket in a "package" assembly. Dana Corp., Toledo, Ohio, says the Spicer-Thompson propeller-shaft-mounted retarder incorporates the retarder as an integral part of the vehicle driveline without use of multiple U-joints or additional brackets.

To get more information, circle 311 on card



Six-speed transmission for on-highway trucks in the 60,000-lb GCW range with high-speed engines is the new Spicer Model No. 5662 from Dana Corp. It features direct drive in sixth with gear ratios progressing from 8.23:1 in first through 4.56, 2.80, 1.85, 1.32 and 1:1 in sixth. Helical, constant-mesh forward gears are said to give longer life.

Circle 312 on card for more details



This COE tractor with 3-leaf units saves 108 lb each in front and 142 lb each at rear



Two-leaf springs in a tandem suspension are 170 lb lighter than multi-leaf units

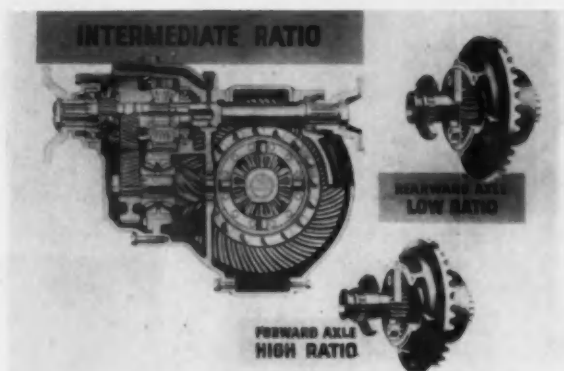
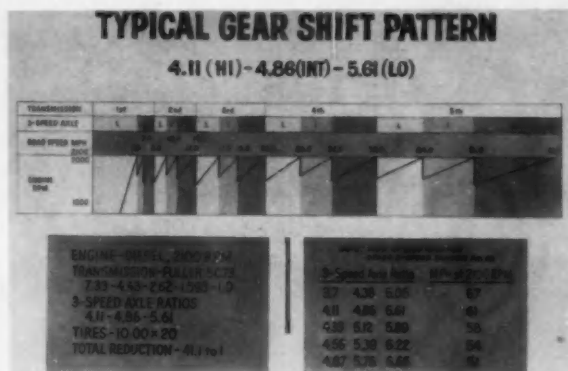
Taper-Leaf springs weigh less

MINIMUM WEIGHT, maximum strength and improved ride are claimed for new Taper-Leaf spring design by Rockwell-Standard Corp., Detroit.

Made to replace multi-leaf units on all vehicles, the new springs have from one to three leaves depending on vehicle size and load capacity.

According to R-S, a single Taper-Leaf with 1-in. center thickness is as strong as a multi-leaf unit with four leaves, each 1/4 in. thick. Thickness of the single leaf tapers down to each end to provide needed flexibility. The longer the spring, the finer the taper. Therefore, overall spring length determines number of leaves a vehicle requires.

R-S cites the following examples of units now using Taper-Leaf:



Two- plus two- equals one Eaton three-speed axle

FIFTEEN FORWARD speeds are now provided for heavy-duty vehicles with standard five-speed transmission when equipped with a new three-speed tandem axle from Eaton Mfg. Co., Cleveland, Ohio.

The new axle assembly consists of two standard two-speed axles with special control to provide three speed ranges—low, intermediate and high. In low, both axles are in low range. In high, both are in high. Power for both axles goes through the interaxle differential mounted on the forward axle. In intermediate range, forward axle is set in high and rear axle in low gear ratio. The torque divider splits the two ratios through the differential to produce an average ratio

between high and low (see photo above).

Therefore, three closely-spaced axle-gear steps (said to differ by only 18 per cent) in each of the five transmission gears provide a total of 15



Gearshift-lever knob has switch for fingertip selection of axle speeds

forward speeds (as shown on above charts). Eaton says the faster shifting provided makes it easy to maintain both uphill speed and downhill engine braking.

The clutch is used only in transmission gear shifting. Axle shifts are made in each gear through a fingertip-control switch on gearshift-lever knob along with simple accelerator manipulation. The interaxle differential is provided with a positive lock-out mechanism operated by a switch in the cab.

Eaton says that 85 per cent of the parts in the three-speed axle assembly are interchangeable with those on present two-speed units.

For more details, circle 373 on card

THERE'S MORE

yet last longer, says R-S

- COE tractor with 1½-leaf front and 3-leaf rear suspensions—253-lb weight savings—no spring failures in 106,000 miles of operation.

- Rear-dump truck with two-leaf springs instead of 12-leaf units — 3000-lb overall weight savings.

- Reo tractor with 2-leaf units—170-lb weight savings—78,700 miles rolled up without spring failure.

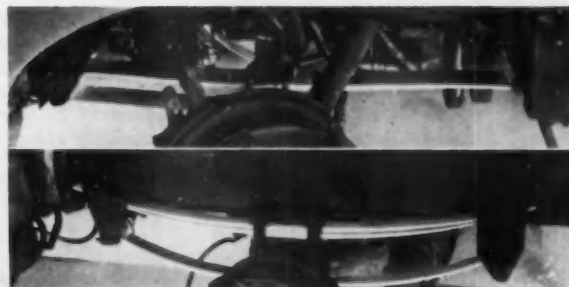
- Fruehauf is said to be using the new springs for savings of 200 lb per trailer.

- Chevrolet is also said to be switching to uni-spring construction on its 1962 passenger cars.

Maker says despite advantages of Taper-Leaf springs, they cost little more than multi-leaf units.

For more details, circle 374 on card

Another tractor has 1½-leaf front suspension (upper photo) and 3-leaf rear units (lower)

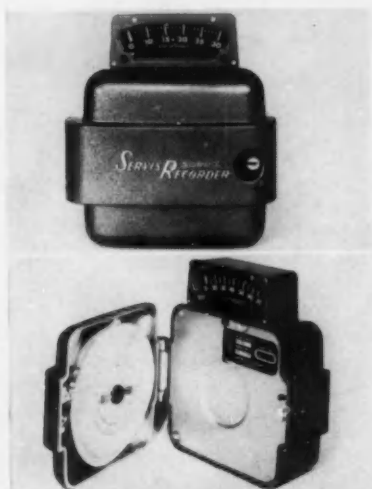


Shown here is a 1960 Ford passenger car with single Taper-Leaf rear suspension



in vehicle accessories

Continued



Visible speed recorders for engine rpm and vehicle mph are designed for use when speedometers or tachometers are not used, says Service Recorder Co., Cleveland, Ohio. Truck drive cables connect directly into recorder base. For more details, circle 376 on card



Ball-joint stabilizer for most late-model passenger cars is called Co-Rect by Tru-Bal Products, Minneapolis, Minn. Easily installed, it prevents loose ball joints and wobbly steering for the life of the car, says maker. For more details, circle 377 on card



Universal fuel pump called the Autopulse Model PEG fits most trucks, buses and cars, says Walbro Corp., Cass City, Mich. The lightweight electric pump is said to handle at least 35 gal per hr free-flow. For more details, circle 378 on card

Diesel fuel additive cuts operating costs, boosts engine power

DIESEL FLEET operators can now cut costs and vehicle downtime for replacing and reverse flushing injectors, says D-A Lubricants, Indianapolis, Ind.

The company is offering a new diesel fuel conditioner that's said to inhibit formation of gummy residues that re-

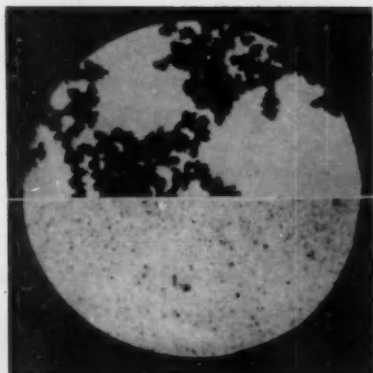
sult from uneven burning of many untreated No. 2 diesel fuels.

The additive was tested in vehicles in various types of fleet operation. Injectors in these engines were still operating efficiently after up to 240,000 miles, without need for reverse flushing or maintenance of any kind,

says D-A. Also, there were no driver complaints of power loss or excessive smoking of exhaust stacks.

It's reported that, in this period, up to four injector replacements as well as frequent reverse flushes were needed with untreated fuels.

For more details, circle 382 on card



Microscopic views at left show (top) gummy residue in untreated fuel, (bottom) dispersed particles in fuel with D-A additive.

Center injector had to be replaced after 70,000 miles with untreated fuel. Injector at right is still good after 240,000 miles on treated fuel



Reefer unit for COE and tilt-cab trucks is the specially-designed Model MW just announced by Thermo-King Corp., Minneapolis, Minn. Wider than most forward-mount units it's also not so deep, says T-K. Five different models are available for installation in short trailers as well as straight trucks.

For more details, circle 375 on card



Fire extinguisher cabinet flush mounts directly into truck body or wall of building. Made by Charter Products, Euclid, Ohio, the all-steel unit is said to be weathertight. A pull of recessed handle unlocks cabinet instantly, says maker.

For more details, circle 379 on card



Brake pressure protection valve is automatic and foolproof, according to Hydro-Aire Co., Burbank, Cal. The dual valve is said to sense an air leak and instantly close off only the failed portion of the brake system.

For more details, circle 380 on card

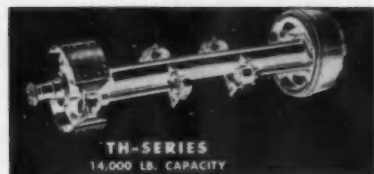


Shock mount for engines, pumps and generators in heavy-duty vehicles is the Model No. W1047 from Robinson Vibrashock Division, Teterboro, N. J. It's said to protect equipment from both its own and outside vibration and shock.

For more details, circle 381 on card

THERE'S MORE

"Related Design" trailer axles are offered by Rockwell-Standard



FOUR SERIES of "Related Design" trailer axles are now available from Rockwell-Standard Corp., Detroit, to suit all types of trailer operation. All are said to provide rugged, heavy-duty use with minimum maintenance—yet are lightweight to permit bigger payloads.



The line includes:

TH Series—14,000-lb capacity—for single or dual wheel use on vans, lowbeds, auto transports and other wide-track units.

TK Series—20,000-lb capacity—for most standard applications.

TR Series—22,500-lb capacity.

TU Series—30,000-lb capacity.

Features offered on all four series include:

- One-piece brake spider with no mounting flange for less weight, better air circulation, fast internal cooling of drum.

- Power brakes with lightweight steel shoes and special heavy-duty lining.

- Induction-hardened spindles said to last the life of the trailer.

- Large bearing shoulder radii to



reduce stress and eliminate frequent bearing service, says R-S.

In addition to its standard line, R-S offers a "Power Takeoff" trailer axle to power reefer units and other auxiliary equipment.

For more details, circle 383 on card





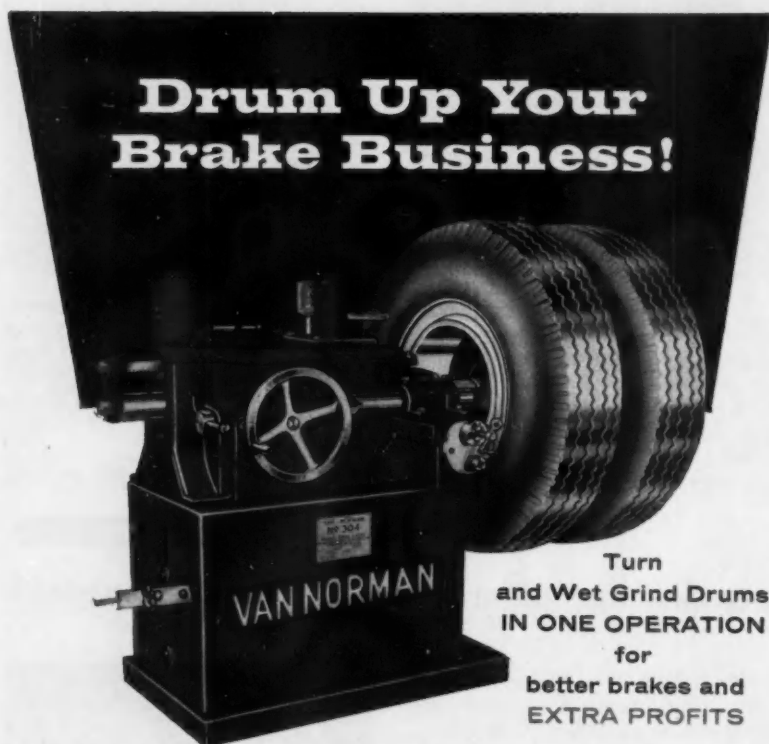
in vehicle accessories

Continued from Page 135

Hoses for dry-bulk materials handling are offered in three new types by Goodyear Tire and Rubber Co. A 3-in. hose for air inlet service on pressurized transport vehicles is said to resist temperatures up to 350 deg F while providing unusual flexibility.

Two discharge hoses with controlled-abrasion feature are Dry-Bulk-S lightweight type and Dry-Bulk-W with wire spiral in its carcass to maintain inside diameter. These are offered in 4-in. size for handling powdered and granulated solids.

For more details, circle 394 on card



Drum Up Your Brake Business!

Turn
and Wet Grind Drums
IN ONE OPERATION
for
better brakes and
EXTRA PROFITS

Van Norman pioneered brake drum grinding—and the massive, rugged, fast VN No. 304 cuts and grinds brake drums in one operation . . . for pleasure cars, light and heavy duty trucks.

Here are some of the extra features:

- Wet Ground Finish—for longer brake lining life.
- No threading action of shoes—no "noisy brake" complaints.
- No free follow-up brake adjustment necessary—saves time and cuts your cost.
- No outboard support required.
- Grind all drums—hard spots no problem.

For full details on the No. 304 profit-producing brake drum lathe, contact Van Norman now.

More Profit-Making Brake Service Jobs Per Day

VN VAN NORMAN

Springfield 7, Massachusetts
A DIVISION OF VAN NORMAN INDUSTRIES, INC.

2011-A

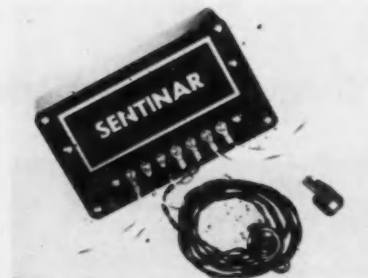
Tachometer drive unit is offered by Syncro-Start Products to mount directly on a standard .187 shaft SAE tachometer takeoff. It's



also said to have two side takeoffs, one rotating clockwise and the other counterclockwise. These are said to permit the GT unit to drive other accessories such as an hourmeter along with the tachometer.

For more details, circle 395 on card

Vehicle burglar alarm is the compact new Sentinar Type V-A-S-1 made by Sentron, Inc., Somerville, Mass. Controlled by a security



key, the unit is said to protect the vehicle against theft or unlawful entry by alternately setting off the horn and flashing the lights. It works through doors, hood or trunk lid, draws battery current only if alarm is set off.

For more details, circle 396 on card

Replacement tires are now offered by Fruehauf Trailer Co., Detroit. Fleet Milers are said to be standard-depth tread tires in either rayon or nylon construction. Sizes range from 8:25 x 20 through 11:00 x 22. Fleet purchasers may have

company name embossed on their tires at no extra cost, says Fruehauf. For more details, circle 397 on card

Industrial jacks in a new horizontal series have just been introduced by Watervliet Tool Co., Albany, N. Y. The LD Series is



designed for straightening, positioning or moving heavy objects weighing from 10 to 50 tons. For operation in horizontal position, the new models feature a turnable pump beam to work from right or left side. A gage is available to indicate force being exerted.

For more details, circle 398 on card

Bed shockmount for sleeper cabs consists of four bed mounts attached near each corner of the mattress board and secured to the floor

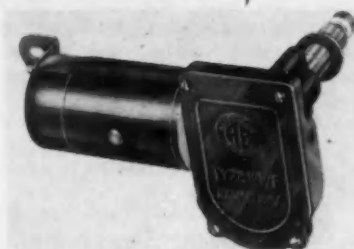


by screws. Robinson Vibrashock Division, Teterboro, N. J., says the Model K1455 absorbs road shock and engine vibration.

For more details, circle 399 on card

Electric windshield wiper called the Highway 15 is said to swing arms and blades up to 15 in. long. The unit is the latest addition the WWF Series from American

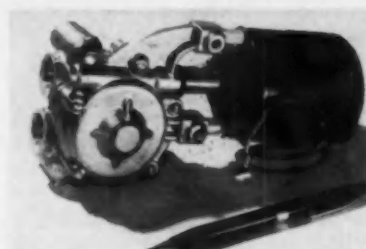
Bosch Arma Corp., Springfield, Mass. Powered by a 2-in. electric motor, the wiper comes in 6-, 12-, 24- and



32-volt models and adjusts to four wiping angles.

For more details, circle 400 on card

Crankcase draining pump is vehicle-mounted to speed oil changes on gasoline or diesel-powered engines.



Electrically-powered, the positive-displacement pump is said to quickly (TURN TO NEXT PAGE, PLEASE)

TORQUE WRENCHES



This Mark* Guarantees:

1. Guaranteed accurate forever within 2% of maximum scale reading.
2. The only wrench that permits accurate use of adapter & extensions. Patented pivoted handle permits concentrated load position—the only way to obtain accuracy with adapters and extensions.
3. Rugged construction. Can be stored in a tool box with other tools.
4. Easy to use as any socket wrench.
5. Signalling models and direct reading styles to choose from.
6. A complete range to choose from to meet every service application.

*These are the same torque wrenches used and recommended by leading engine and equipment builders.



Valve and Clutch Spring Tester

Test new as well as used springs. Match sets of valve springs for top engine performance. Check clutch springs to prolong clutch life.

FREE

Torque Specification Book for over 130 makes and more than 1200 models of automobiles, (U.S. and foreign) trucks, tractors, outboards, motorcycles, diesel, aircraft, marine and small air cooled engines. Spark plug, wheel bearing, valve spring data and many helpful torque tips sent free upon request, write Dept.



PA **STURTEVANT CO**
ADDISON QUALITY ILLINOIS



vehicle accessories

Continued from Page 137

and efficiently drain crankcase of oil, sludge and metal particles. Maker, Hoch Industries, Chicago, says the unit is lightweight, compact and draws little current from vehicle battery.

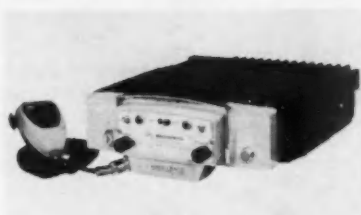
For more details, circle 401 on card

Vehicle safety belt called the Imperial No. 261 is just announced by Beam's Mfg. Co., Oklahoma City, Okla. It's said to offer maximum protection; quick-release, metal-to-metal buckles; and surpass federal requirements by up to 50 per cent.

For more details, circle 402 on card

Two-way truck radios in the Motrac line from Motorola, Inc., Chicago, feature a new device

that's said to extend operating range and suppress vehicle ignition noise interference in heavy traffic areas.



"Extender" operation is now available in the company's transistorized low-band (25-50 mc) line.

For more details, circle 403 on card

Get Strength Where It Counts
in **LEAF-TYPE HINGES!**

Hansen COMMERCIAL BODY Hardware

Hansen Leaf-Type Hinges easily support the heaviest doors. Their greater strength is assured through leaf-type construction, being thickest at the base where maximum stress is located. Be sure . . . insist on

HANSEN...THE HARDWARE FOR HARD WEAR!



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Makers of the famous Hansen Automatic Tackers, Staplers and Hansen Staples—36 Models and 80 Staple Sizes



No. 19 Hinge (20" strap)



No. 12 Hinge (12" strap)



No. 12-S Square-Corner Hinge



No. 16-A Square-Corner Hinge



No. 10 Continuous Hinge

nounced by Velvac, Inc., Milwaukee, Wis. It features lightweight, shock-resistant plastic frame and aluminum bracket.

For more details, circle 404 on card

Passenger car tire just introduced by Pennsylvania Tire Co., Mansfield, Ohio, is called the Turnpike 100. The two-ply nylon tire is said to be rated as strong as standard four-ply units. Maker also claims it rides quiet and cool, is bruise-resistant.

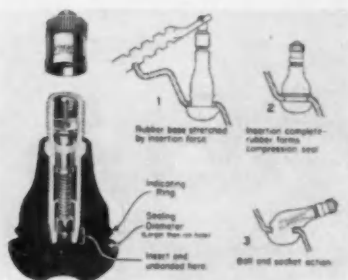
For more details, circle 405 on card

Tire patch with thousands of tiny nylon filaments is said to solve the problem of edge-lifting. Goodyear Tire & Rubber Co., Akron, Ohio, calls it the TRC Action Patch. It's said to provide almost unlimited service life in truck drive wheel tires as well as off-highway units.

For more details, circle 406 on card

COMMERCIAL CAR JOURNAL, August, 1961

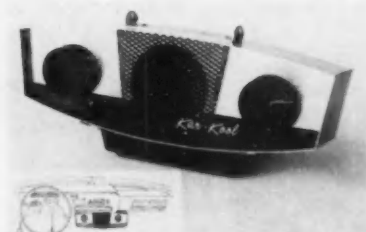
Tubeless tire valves from A. Schrader's Son, Brooklyn, N. Y., are said to provide perfect sealing for driving safety under all con-



ditions. Sketches show installation and design principle of the new valves.

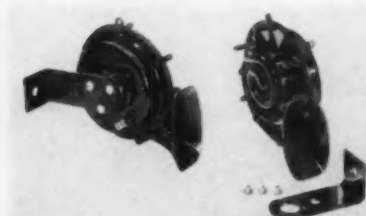
For more details, circle 407 on card

Car cooler from Dualair Corp., Toronto, Canada, is a portable-radio-sized unit called Kar-Kool. Not an air-conditioner, it's



said to cool the car quickly, keep air clear of smoke and odors, and install quickly and easily under the dash. For more details, circle 408 on card

Truck replacement horn from Sparton Automotive Division, Jackson, Mich., is the new Model S. It's said to feature improved opera-



tion and performance and longer life. A new four-position bracket is available or it can be mounted on existing bracket, says maker.

For more details, circle 409 on card

Premium passenger car tire just introduced by United States Rubber Co., New York City is the new

Royal Master. It's a low-profile, tubeless tire with either nylon or rayon construction and extra-deep tread, says maker.

For more details, circle 410 on card

Automotive air compressor from Cummins Engine Co., Columbus, Ind., is offered in two new models—belt-driven and coupling-driven. The simple, 1-cyl, accessory compressor is said to pump 12 cfm for truck and tractor braking or accessory opera-

tion. It's for installation on gasoline or diesel engines.

For more details, circle 411 on card

Rigid foam insulation for reefer trucks and trailers is new one-shot, fire-retardant Hetrofoam 250 made by Durez Plastics Division, Niagara Falls, N. Y. It's said to have excellent insulating properties and remain stable at temperatures beyond 200 deg F.

For more details, circle 412 on card

USE THIS KENDALL FLEET PROGRAM TO CUT YOUR COST PER MILE



FREE OIL ANALYSIS AND FIELD SERVICE — laboratory analysis of your fleet's drain oil to determine the safest, most economical drain intervals for your vehicles under their particular types of operation. Kendall also offers Field Engineering Service for on-the-spot consultation.

RECORD SYSTEMS, including forms for Preventive Maintenance, Operating Cost per Vehicle, Repair Order and a complete fleet log to help you check the overhead of each vehicle at a glance and conduct a regular system for economical operation.



KENDALL QUALITY LUBRICANTS provide the foundation of economy for the cost-cutting program of any fleet. Refined from the richest 100% Pennsylvania Crude Oils, Kendall Fleet Lubricants have proven time and again that they cut wear and the need for repair, help give longer vehicle life.

Ask your Kendall Distributor, or write for complete data on the Kendall Fleet Program

KENDALL REFINING COMPANY, BRADFORD, PENNA.
Lubrication Specialists since 1881

15% 20% 30% 50% 75% 90% How much do you want to increase your retread mileage?

Our recent introductory announcement of Lee Black Diamond tread rubber made a direct hit with the fleet industry and opened the eyes of the quality retreaders of America.

Fleet operators who rely on dependable, durable retreads for lowest cost-per-mile operation are already taking action by asking their retreaders about Lee Black Diamond. They are very much interested in this toughest, most wear-resistant stock ever used for truck tire retreading because it delivers as much as 75% more mileage than they are now getting from standard retread rubber.

How about you and your fleet? Can you afford to pass up maximum mileage at lower operating cost? No indeed! And at the same time, aren't you interested in reducing your purchase of retreads by as much as 42%? Yes indeed!

Talk it over with your own retreader. Specify Lee Black Diamond for a mileage increase you never thought possible. You can be sure of getting the one and only Black Diamond when you look for the name on the cured tire. If your retreader isn't familiar with this brand-new Lee tread rubber simply write direct to Department CCJ, Lee Rubber & Tire Corporation, Conshohocken, Pa.



LEE RUBBER & TIRE CORPORATION
Conshohocken, Pa.



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COLD WEATHER SPECIAL

EVANS HEATERS
*are right for trucks
 because
 they're built for
 trucks!*

MINESTRONE SOUP.....
 HAMBURGER.....
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HEATING AND VENTILATING DIVISION

Durable, dependable, rugged. Evans heaters are *built for trucks!* They're tailored to truck manufacturer specifications. They're custom-engineered to provide the right BTU rating and proper heat distribution for *your specific truck models*. And they're designed for quick-and-easy maintenance.

Twenty-five years of engineering experience—plus rigorous tests and assembly-line inspections—go into the

production of every Evans truck heater. This product quality has made Evans the largest manufacturer of heavy-duty truck heaters. And because of confidence in the quality of its products, Evans backs its heaters with a one-year/50,000-mile warranty.

Regional Representatives:
 Chicago, R. A. Lennox
 Detroit, Chas. F. Murray Sales Co.
 Allentown, Pa., P. R. Weidner

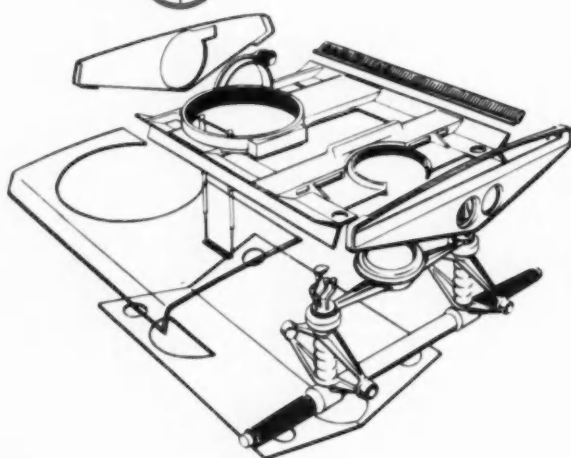




Strong, rugged



makes strong, rugged equipment



1 2

1. Frame and body members could be fabricated from strong, tough, weldable USS "T-1" Constructional Alloy Steel. "T-1" Steel has a minimum yield strength of 100,000 psi, retains its toughness even down to -50°F . Upper and lower body panels are cold-formed from "T-1" Steel sheets. Frame is a single "T-1" Steel member. Use of "T-1" Steel in both tractor and trailer shells permits a thin yet extremely strong, tough, corrosion-resistant hide.
2. Steel's exceptional ductility enables the inner shell of the operator's turret to be produced from a single stamping. The turret rotates 360° on a ring gear and bearing assembly machined from carburized alloy steel for maximum hardness and wear resistance. Corrosion-resistant Stainless Steel tops the turret.



Idea for a horizon-maker ... in steel

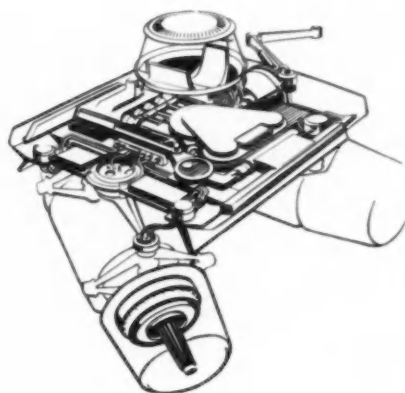
Tomorrow's horizons will be shaped by incredible equipment like this blaster-with-a-brain. Just roll it into position, punch out the program on the computer, train the blasting pod on its target and let harnessed energy go to work.

This mountain-mover and its mighty cousins will require strength and ruggedness scarcely dreamed of today. They'll have to be built to absorb enormous stress and shock, even at Arctic temperatures. They'll have to have the strength and toughness that only steel can give them.

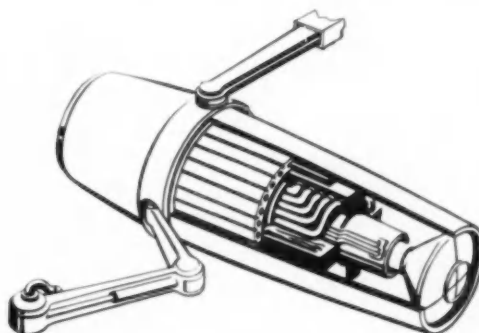
These are but a few of the imaginative uses of steel in this horizon-maker of tomorrow. Today, there are over 160 steels used in passenger cars and trucks, and thousands more available. There is a steel for practically any combination of properties the engineer can dream up . . . steels for strength, ruggedness, durability. When you want steels that will match your imagination, call United States Steel, Mgr.—Automotive, Room 2831, 525 William Penn Place, Pittsburgh 30, Pa. *USS and "T-1" are registered trademarks*



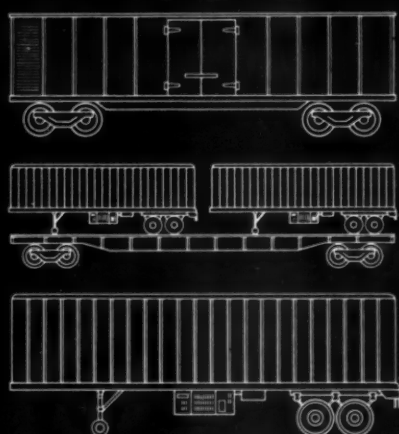
United States Steel



3 4



3. Small computer bearings and races and heavy duty thrust bearing races are made of seamless alloy steel tubing for maximum strength and durability. Control arms for the blasting pod are "T-1" Steel to obtain high strength-to-weight ratio. Wheel rims are special contour sections rolled from carbon steel for great rigidity, and steel wire coring in "air-bag" tires withstands enormous weight and shock loads.
4. Control arm actuating rams are flame hardened, centerless ground and chrome-plated seamless steel tubing which provides light members that are highly resistant to multi-directional stresses. The pod is a "T-1" Steel casing with a ceramic liner, and heat-resistant Stainless Steel is used in the ignition chamber for its high creep resistance.



MERCEDES-BENZ

DIESEL ENGINES HELP KEEP
REFRIGERATION ROLLING



Light, quiet, compact and economical to operate, Mercedes-Benz diesel engines are adaptable to both direct mechanical and electro-mechanical refrigeration. Manufacturers and designers seeking refrigeration units intended for railroad cars, unitized containers, and truck and piggy-back trailers will find a seasoned team of Mercedes-Benz specialists in sales, engineering, service and supply, ready to work with them from the planning stage on. The finished product will not only have the utmost in economical and dependable diesel power but the assured acceptance of Mercedes-Benz quality. **MERCEDES-BENZ DIESEL ENGINES — A PRICE-QUALITY STANDARD SECOND TO NONE.**

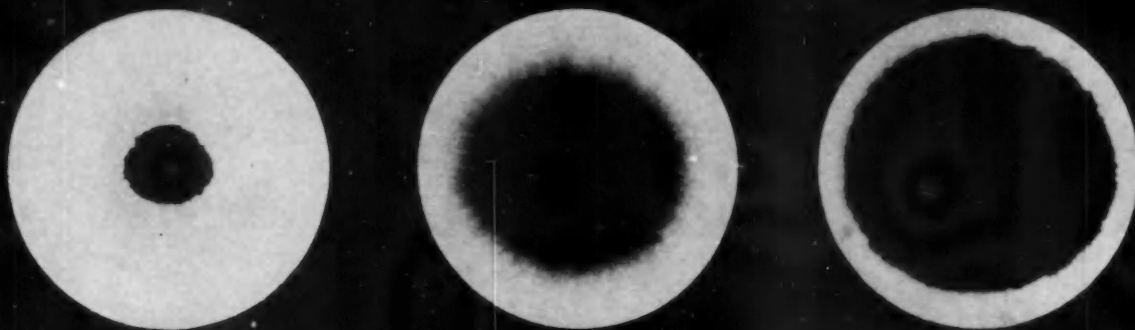
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3 drops of oil—3 conditions. First oil doesn't spread and has lost dispersancy. Second oil spreads into paper, has good dispersancy. Third spot indicates good dispersancy, but high soot level. Shell "Oilprint" Analysis can give you advance warning of engine trouble.

BULLETIN:

Shell 5-minute "Oilprint" Analysis shows what's going on inside your engines; now used by over 500 fleet operators

Now, with Shell's ADC® "Oilprint" Analysis, you can test used engine oils in your own shop. And in a matter of minutes.

Read how this unique testing process can give you advance warning of engine trouble, help you set up more effective maintenance schedules and reduce roadside breakdowns.

A DROP of oil from an engine is an excellent indicator of the lubricant's condition and—to the experienced eye—of the engine's condition.

It can tell you if the oil is still satisfactory for continued service. It can provide clues to faulty carburetion. It can show a coolant leak. It can help you schedule proper oil drain intervals. And much more.

How do you get this information quickly?

Over 500 fleet operators have found the answer in Shell's 5-minute "Oilprint" Analysis.

All that's needed: Shell's ADC "Oilprint" Analysis Chart and a warmed-up engine.

A few drops tell the story

Take the problem of sludge accumulation.

If the oil makes a dark concentrated spot, it has lost its ability to hold sludge particles in suspension. Poor dispersancy, our technical people call it. The oil should be changed.

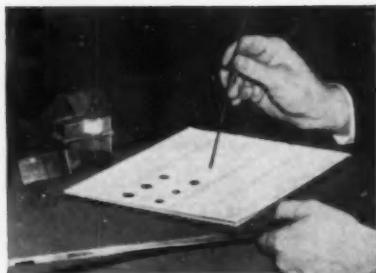
By adding Shell Indicator Fluid, a Shell Representative can tell if the oil still has its anti-wear properties. In Shell's Motor Oils for fleet use, these

properties guard against engine wear.

You can also determine the relative amount of soot and contaminants—such as wear debris and dust that might foul your engine. If there's a water leak or anti-freeze contamination, proper evaluation of an oilprint will reveal it.

Free Demonstration

Your Shell Industrial Products Representative will gladly give you a free demonstration of the Shell ADC "Oilprint" Analysis. He will show you how to set up a "life cycle" report of every engine you operate. Call him today.



"Oilprint" Analysis can be made in your own shop.



A BULLETIN FROM SHELL
—where 1,997 scientists are helping
to provide better products for industry.

More details? Circle 177 on reply card inside back cover



in shop equipment

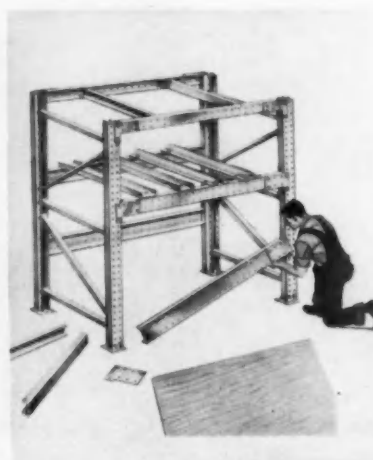
Fold out reply cards inside back cover. Use them to find out more about all the items that interest you



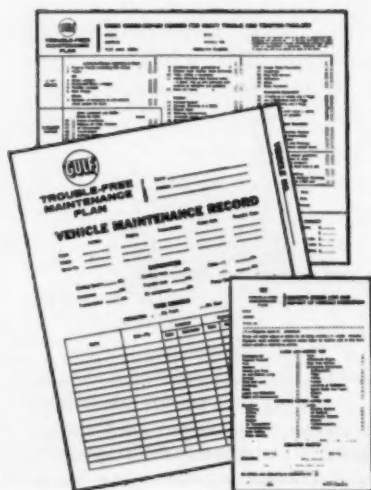
New series of 2-ton cranes from Ruger Equipment, Uhrichsville, Ohio, includes floor, truck and pedestal-mounted units. The HP-2 series is said to feature light weight plus strength. For more details, circle 384 on card



Adjustable tire rack is a reinforced steel unit with several 3-sided bars to hold tires of any size. Penco Division, Oaks, Pa., says the 48-in.-wide rack permits 1-in. tire-bar adjustments. For more details, circle 385 on card



Storage rack for quick do-it-yourself assembly is called Bild-A-Rack by Paltier Corp., Michigan City, Ind. Said to need no special tools or welding, it comes in all popular sizes. For more details, circle 386 on card



TFM plan controls fleet costs on

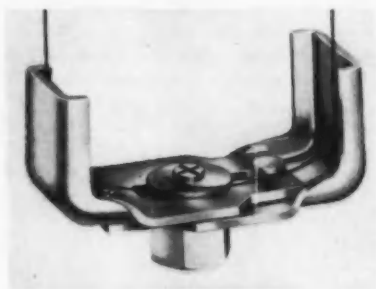
KEEPING TRACK of individual vehicle maintenance is essential to effective overall cost control in any fleet operation. And it's usually a king-sized job to keep accurate, up-to-date service records of every unit in a fleet. That's why Gulf Oil Corp. has set up a new plan to make your PM program and record-keeping a lot easier. Gulf calls it the Trouble-Free Maintenance (TFM) plan.

Whether your fleet is small, medium or large sized, no matter what types of vehicles you operate, the TFM plan can be set up to suit your needs, says Gulf.

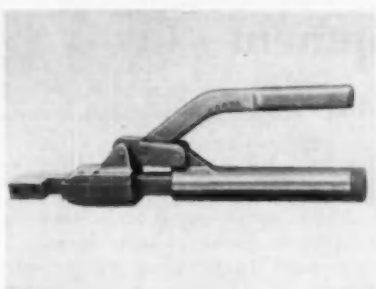
Key to the plan is the TFM Guide, a 72-page manual which discusses the five major areas for developing your program. These include:

1. Proper fuels and lubricants.
2. Lubrication frequency.
3. Inspection procedures.
4. Tuneup or adjustment frequency.
5. Simplified record-keeping to help you spot trouble and carry out preventive measures before costly repairs and downtime are needed.

A Master set of truck lubrication



Oil filter removal tool
is self-adjusting and self-locking to grip the end of the filter for easy removal, says maker Proto Tool Co., Los Angeles. Model No. 2304 is for use with any 1-in. wrench.
For more details, circle 387 on card



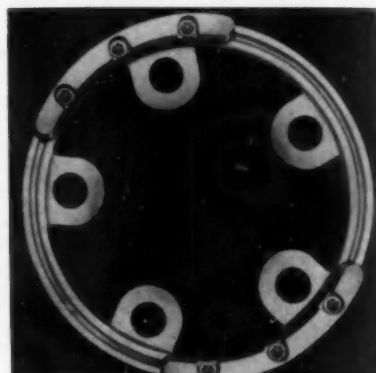
Nut gripper
for quick removal of stubborn bolts
has 7000-lb clamping force, says
Rodgers Hydraulic Co., Minneapolis,
Minn. Self-locking, it's adjustable
from 1/2 to 2 in.
For more details, circle 388 on card



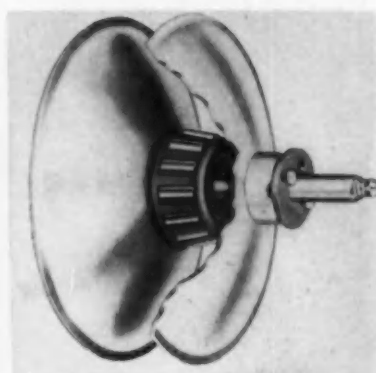
Holding fixture
for transmissions and differentials on cars and light trucks needs no adaptors, according to Thern Machine Co., Winona, Minn. It mounts on any floor jack by using two bolts.
For more details, circle 389 on card



Valve and injector wrench for use on Cummins diesel engines is offered by Snap-On Tools, Kenosha, Wis. The adaptor wrench is designed to be used with Snap-On Torqometers and required sockets.
For more details, circle 390 on card



Truck wheel balancer
from Dayton-Tandem Mfg. Co., Den-
ver, Colo., is a ring (fastened on
wheel nuts) with two weights that
move in its circular track and are
secured after wheel is balanced.
For more details, circle 391 on card



Bearing Packer
for front wheels is a heavy-duty unit just announced by Plews Oiler, Minneapolis, Minn. Standard grease fitting is for either power or hand-operated grease guns.
For more details, circle 392 on card

per-vehicle basis

charts provides service data for each make and model of trucks and trailers in your fleet.

The five forms on which TFM plan records are kept are:

- *Vehicle Maintenance Record Folder*—data entered here includes make, model, serial number, capacities, tire and battery record, fuel and oil record and repairs (type plus total cost of parts and labor).
- *Work Order-Repair Record*—for light- or heavy-duty trucks, gasoline- or diesel-powered. This is the mechanic's shop order to perform in-

- *Work Order-Repair Record*—for light- or heavy-duty trucks, gasoline- or diesel-powered. This is the mechanic's shop order to perform in-

specification or PM services. Parts used and total repair cost are also entered on this form.

- **Fleet Status Wall Chart**—for recording up-to-the-minute maintenance status of every unit in the fleet.
- **Driver's Checklist and Report of Vehicle Condition**—the ICC-required form to be made out by driver after


- *Driver's Checklist and Report of Vehicle Condition*—the ICC-required form to be made out by driver after

every trip. It also serves as a control device for units serviced between regularly-scheduled intervals.

- **Truck Lubrication Chart**—containing factory-approved lube requirements. It provides an organized, step-by-step procedure for lube jobs to assure that no point is overlooked. For more details, circle 393 on card

For more details, circle 393 on card

THERE'S MORE

 TICKETS-FREE RAVENSPLAN	FLEET STATUS	INSTRUCTIONS
<p><small>1. This form is to be filled out by the driver of the vehicle at the time of the accident. It is to be filled out for all accidents involving a vehicle owned or operated by the Tribe, regardless of whether the vehicle is insured or not. It is to be filled out for all accidents involving a vehicle owned or operated by the Tribe, regardless of whether the vehicle is insured or not. It is to be filled out for all accidents involving a vehicle owned or operated by the Tribe, regardless of whether the vehicle is insured or not.</small></p>	<p><small>2. This form is to be filled out by the driver of the vehicle at the time of the accident. It is to be filled out for all accidents involving a vehicle owned or operated by the Tribe, regardless of whether the vehicle is insured or not. It is to be filled out for all accidents involving a vehicle owned or operated by the Tribe, regardless of whether the vehicle is insured or not. It is to be filled out for all accidents involving a vehicle owned or operated by the Tribe, regardless of whether the vehicle is insured or not.</small></p>	<p><small>3. This form is to be filled out by the driver of the vehicle at the time of the accident. It is to be filled out for all accidents involving a vehicle owned or operated by the Tribe, regardless of whether the vehicle is insured or not. It is to be filled out for all accidents involving a vehicle owned or operated by the Tribe, regardless of whether the vehicle is insured or not. It is to be filled out for all accidents involving a vehicle owned or operated by the Tribe, regardless of whether the vehicle is insured or not.</small></p>
<p><small>4. This form is to be filled out by the driver of the vehicle at the time of the accident. It is to be filled out for all accidents involving a vehicle owned or operated by the Tribe, regardless of whether the vehicle is insured or not. It is to be filled out for all accidents involving a vehicle owned or operated by the Tribe, regardless of whether the vehicle is insured or not. It is to be filled out for all accidents involving a vehicle owned or operated by the Tribe, regardless of whether the vehicle is insured or not.</small></p>		



in shop equipment

Continued from Page 147

Aluminum cleaner developed by Parke-Hill Chemical Corp., Mt. Vernon, N. Y., is said to cut trailer cleaning time and work to a minimum. Just spray Alumi-Brite on the surface, wait a few minutes, then hose it off with plain water. Maker says it removes oxidation, dirt,

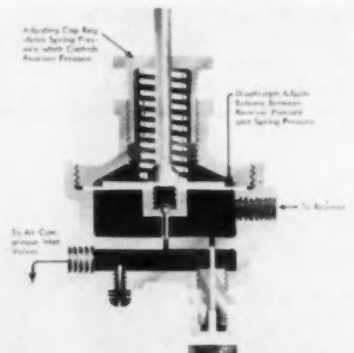
oil and carbon, leaves no streaks or residue on metal, glass or paint. For more details, circle 413 on card

Two-post vehicle lift with 11,000-lb lifting capacity is des-

igned the Model No. MC-60 by Curtis Mfg. Co., St. Louis, Mo. It's said to handle all cars and trucks with wheelbases ranging from 88 to 148 in. Hydraulically operated, it has fully adjustable front and rear saddles.

For more details, circle 414 on card

Air compressor device continuously maintains receiver pressure within one lb of given setting while compressor is operating, says



Trymac, Inc., Erie, Pa. The Trymatic Governor is said to require no internal adjustment, cleaning or lubrication.

More details? Circle 415 on reply card

Brake spring tool is the 3-way combination Model No. 264 offered by Bingham-Herbrand



LOWEST PRICE,
MAXIMUM VALUE!

MARQUETTE

Star-Jet

REDI-PAC

Here's a medium duty oxy-acetylene welding and cutting outfit complete in its own tool box...known for quality because it's made by MARQUETTE.

Quality is the key to dependable, trouble-free performance—and that's what you get with famous Marquette equipment. This Star-Jet REDI-Pac contains all top-quality equipment, everything you need including hose, lighter, and most popular tip sizes (complete range of tips available).

The complete outfit comes in a rugged steel REDI-Pac tool box for safe carrying, convenient storage.

And quality is the key to the amazingly smooth performance you'll get from Marquette's new two-stage oxygen and acetylene regulators... which feature only 8 moving parts, clocklike accuracy, rugged construction.

MARQUETTE'S complete catalogs will help you select the right equipment for your job. WRITE TODAY:

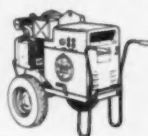


Full line of battery chargers and testers

Full line of oxy-acetylene welding equipment and supplies



Full line of A.C. Arc welding equipment and supplies



MARQUETTE

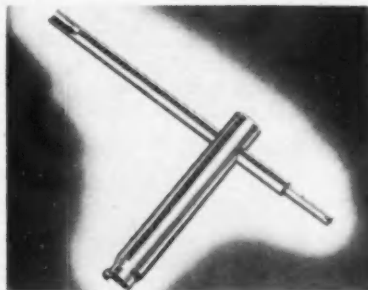
MARQUETTE MANUFACTURING CO. DIVISION OF MARQUETTE CORPORATION Minneapolis 14, Minnesota, U.S.A.
307 EAST HENNEPIN AVE.

Teletype Manifests



Spector Freight System now uses teletypes at its terminals for transmitting manifests of trailer contents—often before the trailers depart. Here is central communications center at Chicago, where manifests arrive and are sent at 100-wpm. Lists include weight, bill number, pieces, origin and destination cities, shipper, consignee, and departure time.

Corp., Fremont, Ohio. Designed for use with one hand, it frees the other to line up the brake shoes. Slotted, lug and spoon ends on one tool per-



mit removal and replacement of all the brake springs without changing tools, says maker.

More details? Circle 416 on reply card

Four new floor jacks just introduced by American Hydraulics Co., West Allis, Wis., are said to feature added lifting height, deeper



reach, large saddles, safety overload valves and are easily maneuvered.

Rambler American Convertible



American Motors recently introduced its new low-priced Rambler American convertible. The Custom 2-door model is built on 100-in. wheelbase with 173.1-in. over-all length and 70-in. width. It's powered by a 6-cyl. OHV engine rated at 125 hp. Convertible top is electric-hydraulic powered. Plastic garnish moldings along tops of doors protect the finish and make it more comfortable for passengers who rest their arms on the window sills. The body is said to have the structural strength of a sedan due to special underbody supports.

COMMERCIAL CAR JOURNAL, August, 1961

Models offered include:

FJ-125—1¼-ton capacity with high lift of 18½ in. All controls are in the handle which removes for compact storage in the service truck.

FJ-151—1½-ton capacity with 20½-in. lift and removable handle.

FJ-201—2-ton capacity, 25-in. lift and dual-speed operation for smooth, controlled lifting.

FJ-401—4-ton capacity to handle low- or high-bed trucks as well as cars. Lifting range is up to 26-in.

More details? Circle 417 on reply card

"Moisture Minder"

is the name of a new valve for removing water and oil condensation from compressed air lines in air-brake



systems of trucks and buses. Made by Barger Mfg. Co., Minneapolis, Minn., it's said to install easily in ex-

(TURN TO NEXT PAGE, PLEASE)

These Parts Are Identical In Everything But Price!



Which One Are You Buying?

Here's how to help your parts man save you money!

The new Hollander Axle Interchange Manual is the *first* and *only* method in the industry that provides complete and accurate interchange data on identical axle parts. With this Manual and a few fast phone calls to truck dealers in your area, you get needed parts at the lowest possible cost. Also eliminates parts delivery de-

lays when your regular supplier is out of stock—cuts "down-time" by indicating all nearby sources of supply.

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FIRM _____
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CITY _____ ZONE _____ STATE _____

More details? Circle 179 on reply card inside back cover



in shop equipment

Continued from Page 149

isting system without cutting lines. The unit can be attached to filter bowl, drop leg, after cooler or compressor.

More details? Circle 418 on reply card

Re-threading wrench

rebuilds damaged spindle threads in minutes, according to O'Brien Engineering Co., South Beloit, Ill. For



heavy-duty use in the shop or on the road, it's said to fit any Shuler, Tim-

ken or Standard Forge axle. In use, just start the tool on the back of the spindle thread and work forward, says maker.

More details? Circle 419 on reply card

Battery filler

automatically insures correct level of electrolyte, says maker Joseph Lucas, Ltd. When nozzle is inserted into the



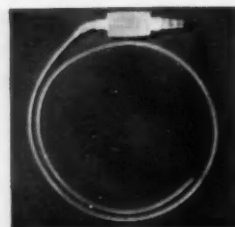
cell and pressed against separator plate, liquid flows into the cell until it reaches the right level. Then it cuts off and valve remains closed to pre-

vent leakage as filler nozzle is removed from the cell.

More details? Circle 420 on reply card

Gas-tank siphon

called "Porta-Pump" is said to be a simple solution to the problem of running out of gas on the highway. The



new device from Berton's, Inc., Chicago, siphons gas from any vehicle



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for Complete Descriptive Literature

NoSPIN[®] differentials help maintain profitable fleet operation by *eliminating costly wheel spin*

NoSPIN directs all the available torque to the drive wheel having traction. It completely eliminates losses resulting from unnecessary tread wear. . . . delayed delivery schedules and shock-loading differential and drive-line parts when vehicle equipped with conventional differential becomes stuck in mud, snow, ice or sand. It helps the fleet operator to save on fuel, oil and maintenance.

NoSPINS give truck wheels positive driving traction under virtually all adverse driving conditions. Thousands of satisfied users will give you an enthusiastic endorsement.

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Limited
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(As Pictured
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More details? Circle 269 on reply card

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to Madison to Milwaukee
Rockford Elgin Chicago
Aurora to Indiana

More details? Circle 261 on reply card

tank into a container through plastic hose. A few squeezes of the hand pump starts the liquid flowing, says maker.

More details? Circle 421 on reply card

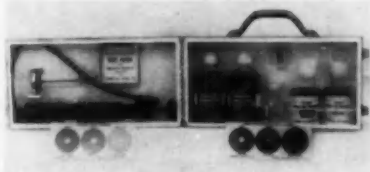
Illuminated voltmeter checks voltage output at the dash in trucks and buses. Cole-Hersee Co., Boston, Mass., says its new Model No.



33301 can be used in the shop or permanently installed in the vehicle. It's said to quickly and easily check operation of both generator and voltage regulator.

More details? Circle 422 on reply card

Motor oil testing kit from Lengor, Inc., Annapolis, Md., is an improved version of the company's portable Simplex unit, it is claimed.



The kit is said to make an easier and cleaner job of testing oil from all types of engines.

More details? Circle 423 on reply card

Vehicle body cleaner wipes on, wipes off to remove silicone, tar, grease, wax and road film from any automotive finish. Zac-Lac Paint & Lacquer Corp., Atlanta, Ga., claims that its new Kar-Klean No. 425 is able to do all this because it contains a special blend of cleaning solvents.

More details? Circle 424 on reply card

Change Truck Tires **EASIER** with **JOB-DESIGNED KEN-TOOL QUALITY BEAD LOOSENERS**

Free frozen beads quickly with exclusive Ken-Tool Bead Looseners. They provide greater leverage... loosen the most stubborn truck tire beads quickly, easily.

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T-50
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T-51
Farm Tractor
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T-26 A
Truck and Bus
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T-26 B
Impact Truck
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SEE YOUR JOBBER on the complete line of **Job-Designed Ken-Tools**. Forged by the largest exclusive manufacturer of top-quality Tire-changing Tools and Equipment. **THE KEN-TOOL MFG. CO., AKRON 5, OHIO.**



More details? Circle 260 on reply card

COMBUSTION LEAK?

**DON'T GUESS—
BE POSITIVE
TEST IN
ONE MINUTE!**



**SPOTS and LOCATES
COMBUSTION LEAKS**

● LEAKY GASKETS ● CRACKED or
WARPED HEADS ● CRACKED BLOCKS



At the very first signs of engine HEATING, LOW WATER, HARD STARTING and RUSTY RADIATOR CONDITIONS—check the cooling system with P&G BLOC-CHEK! With engine idling, place the BLOC-CHEK in radiator opening. Squeeze bulb to draw air sample from cooling system and through BLOC-CHEK test fluid. If combustion gas is leaking into the cooling system the test fluid changes from BLUE to YELLOW. It's a modern miracle of chemistry—and absolutely accurate in spotting combustion leaks, even though the leak is very small.

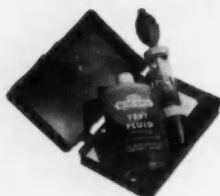
**PROFITS GO UP — IF
FLUID TURNS YELLOW!**
BLOC-CHEK will prove itself immediately in the shop, station or service department as a time saver in spotting the real trouble. You will be able to show the customer trouble exists . . . and explain the need for correction! BLOC-CHEK cost is so low, one minor job will pay for the instrument!

**BLOC-CHEK WILL DETERMINE THE EXACT CYLINDER
WHERE THE LEAK IS OCCURRING.**

After a positive reaction (color change), the exact location of the leak can be determined by removing one plug at a time and retesting.

**WHEN NON-LEAKING
CYLINDERS ONLY ARE FIRED,
THE LIQUID WILL REMAIN BLUE.**

**WHEN A LEAKING CYLINDER IS
FIRING, THE LIQUID WILL
CHANGE TO YELLOW.**



BLOC-CHEK

is the *only* accurate method of determining *whether or not* a combustion leak exists!

Kit includes BLOC-CHEK and TEST FLUID, in unbreakable box.

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- ☐ Please ship BLOC-CHEK KIT(s) at \$19.75 each.
☐ Please send additional information.

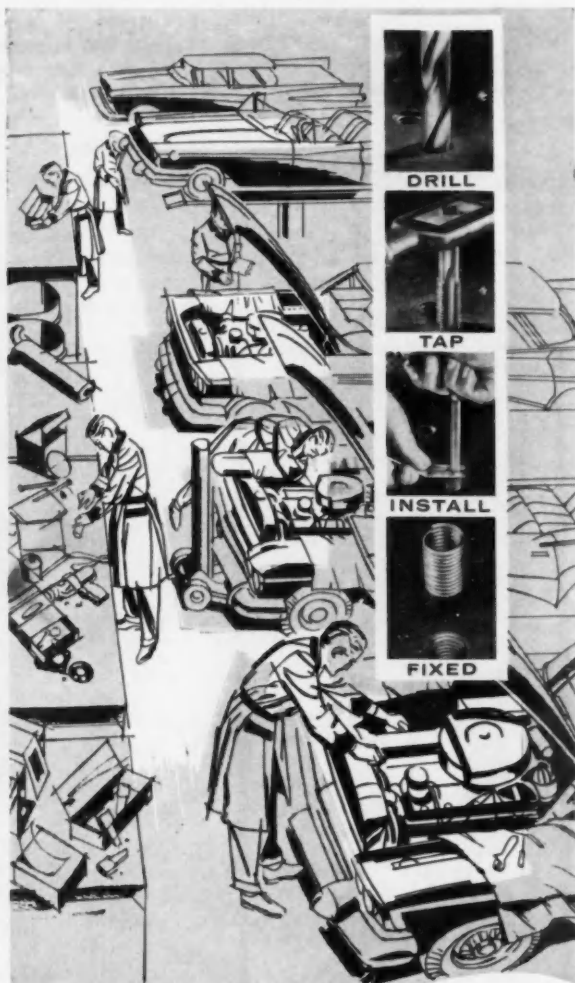
Name..... Address.....

City..... State.....

☐ Check Encl. (Ship. Charges Prepaid) ☐ C.O.D.

☐ Open Acct. (D&B Rated)

More details? Circle 225 on reply card inside back cover



Repair Stripped Threads ...even in Aluminum AND CUT REPAIR COSTS!

Make thread repairs in minutes, for only pennies per hole. Use **HELI-COIL®** Stainless Steel Wire Screw Thread Inserts to restore threads to original dimensions . . . no need to change screw sizes! Permanently prevent wear, stripping, corrosion, galling and seizing. Provide lifetime protection to tapped holes in all metals . . . even in aluminum, magnesium and other light materials.

HELI-COIL EYZ-KITS contain individual EYZ-PACKS of inserts in selected sizes, plus installation tools. Popular combinations for all car and truck engines, in all thread series and sizes. MM sizes in all reaches for spark plug ports, and inserts for taper pipe threads also available.

For descriptive literature, including Metric and Whitworth Thread Conversion, and name of your **HELI-COIL** jobber, write . . .

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More details? Circle 181 on reply card inside back cover

Autocar "Loggers' Special" carries 8000 board feet of pine over rugged mountain roads.



Autocar Custom-Engineered Tandems move the heaviest construction equipment.



Autocar "Michigan Special" hauls 47-ton payload, making the most of Michigan laws.



Custom Builders to the Trucking World

Wherever hauling duties are rugged and steady . . . wherever maximum performance is crucial, back comes the message, "We need Autocars . . . nothing less."

So you find Autocar working on the toughest construction jobs all over the world, carrying maximum legal loads under the many varying state laws, doing the roughest off-the-highway/over-the-highway work.

Every Autocar is custom-engi-

neered from "rubber to roof" for its specific job. Components are perfectly matched throughout its design and construction—always with an eye to quality. Frame rails, for example, are made of the finest steel . . . custom-drilled to avoid unnecessary holes and to assure perfect alignment of components.

For you, Autocar produces just the truck, at a reasonable cost, that will earn the most on your invest-

ment. Buy less if you can afford it—but where every dollar counts, buy the "World's Finest."



Division of
THE WHITE MOTOR COMPANY
Exton, Pa.

More details? Circle 182 on reply card inside back cover



"Operating over 200 tractors and 200 trailers from Detroit to the West Coast, we encounter temperatures from 120° above across the desert to 40° below in the mountains of Colorado. We have found that with LUBRIPLATE our wheel bearing packing mileage has tripled. Since using Lubriplate A.P.G.-90 in our transmissions and differentials, we are getting double the mileage between their overhauls."

REGARDLESS OF THE SIZE AND TYPE OF YOUR MACHINERY, LUBRIPLATE GREASE AND FLUID TYPE LUBRICANTS WILL IMPROVE ITS OPERATION AND REDUCE MAINTENANCE COSTS.

LUBRIPLATE is available in grease and fluid densities for every purpose... LUBRIPLATE H. D. S. MOTOR OIL meets today's exacting requirements for gasoline and diesel engines.



For nearest LUBRIPLATE distributor see Classified Telephone Directory. Send for free "LUBRIPLATE DATA BOOK"... a valuable treatise on lubrication. Write LUBRIPLATE DIVISION, Fiske Brothers Refining Co., Newark 5, N. J. or Toledo 5, Ohio.



More details? Circle 262 on reply card

MAINTENANCE

Continued from page 83

has led to a second program, now underway.

Carl H. Doman, national service manager, Ford Division, initiated a plan with four basic steps:

- Training of leading high school technical instructors in Ford service techniques.
- Evening classes conducted by the instructors for interested, qualified high school seniors.
- Part-time student employment (when possible) in Ford dealerships during school year.
- Full-time employment of graduate students as apprentice service technicians.

The pilot program, with classes conducted in eight of Ford's 36 sales districts, began with enrollment of 70 students. Two dropped out—one quit school, the second took a full-time job with a dealer. The other 68 are now apprentices.

Six to 10 dealers in each district, working as a committee under a district service manager, selected instructors and students from their respective districts.

Qualified instructors

The eight instructors first attended an intensive two-week course at Ford's Technical Service Laboratory in Detroit. Basically, each dealer sponsored one student who was selected in cooperation with school authorities.

A nine-month course was set up with three-hour classes conducted two nights a week in Ford's district service schools. Wherever possible, sponsoring dealers employed students part-time on a learning basis.

Graduates of the course are now in the second year of training as apprentices in the dealerships.

Standards for mechanics?

New Jersey's Legislature has a bill under consideration called "Safety Automotive Maintenance Act."

Its effects on the automotive industry—and fleets—would belie its inconspicuous title. It would:

Set up a licensing board to examine all automotive mechanics, apprentices, service station operators, attendants and apprentice attendants.

License required

The bill provides, "No person shall engage in the occupation of automotive mechanic until he has first served as an apprentice and unless he shall have been duly licensed so to do by the Board;

"A mechanic shall have passed an examination, exhibiting his ability to repair and service automobiles, conducted by the Board to determine his qualifications and fitness therefor."

Revocation possible

"Automotive mechanic," incidentally, is defined in the bill as "any person who has qualified... to perform certain or all repairs on vehicles propelled by an internal combustion engine." Licensing fees would be collected from all mechanics, and licenses could be revoked or suspended for a variety of reasons, including "gross incompetence."

Econoline wheel alignment

Your shop service notes should include these new front wheel alignment specs for '61 Ford Econoline models:

- Caster— $3\frac{1}{2}$ deg \pm $\frac{3}{4}$ deg
- Camber— $\frac{3}{8}$ deg \pm $\frac{1}{4}$ deg
- Toe-in— $\frac{3}{32}$ in. \pm $\frac{1}{32}$ in.
- Kingpin inclination— $7\frac{1}{2}$ deg

END

Please Resume Reading Page 85

1961 Domestic Truck Factory Sales by GVW

Month	6,000 lb. and less	6,001-10,000 lb.	10,001-14,000 lb.	14,001-16,000 lb.	16,001-19,500 lb.	19,501-26,000 lb.	26,001-33,000 lb.	Over 33,000 lb.	Total
January	30,400	11,824	835	1,397	7,336	4,139	1,720	1,956	67,407
February	39,039	11,815	584	1,447	7,587	3,791	1,562	1,858	67,703
March	44,003	12,838	846	1,751	10,007	4,979	2,011	3,138	79,573
April	43,323	12,736	737	1,700	9,215	4,338	2,370	3,201	77,620
May	48,242	12,707	830	1,840	10,692	5,331	2,604	2,965	85,220
5 Mos. 1961	213,007	61,920	3,641	8,135	44,637	22,578	10,287	13,118	377,523
5 Mos. 1960	285,360	74,110	4,067	12,271	68,144	30,039	16,956	15,999	487,746

FISH TALE?



Not at all. Truck tarps made of Coverlight are waterproof. They give you complete cargo protection in any kind of weather. Coverlight won't freeze or stiffen when wet—flash dries. Always lightweight, easy to handle. Reeves builds extra quality into Coverlight. That's why smart fleet operators invest a little extra in tarps of Coverlight H or N*—rather than risk cargo damage or wasted time. See your tarp supplier or write to Reeves-Vulcan.

*Available in hypalon
or neoprene coated nylon
specially compounded by Reeves-Vulcan

A few more pennies for Coverlight® now ...can save you dollars in the long run!



REEVES

Reeves Brothers, Inc., 1071 Ave. of the Americas, N.Y. 18, N.Y.

Newest member of the famous **INTERNATIONAL** 400 Series: Model DB-405

you get bigger payloads here ▼



because front axle



48" * 66"

Front axle is set back a full 4-ft. from the front bumper, enabling the DB-405 to carry more front-end weight and free the rear axle for bigger payloads in non-bridge formula states.

QUICK SERVICE ACCESSIBILITY— HOOD ASSEMBLY TILTS FULLY OPEN!

Light and strong, the "flip-forward" reinforced fiberglass hood and fender assembly of the INTERNATIONAL DB-400 Series trucks opens fully for instant, unencumbered accessibility. Engine, steering assembly and front springs are fully exposed for servicing. You get the sound-deadening, heat-insulating qualities of fiberglass plus the assurance that there's no squeak or rattle.

There's more than meets the eye in the Model DB-405 . . . the air cleaner and Luberfiner are tucked neatly and safely under its hood—with the air intake through a port in the right side of the hood.

And in the cab, a dash panel swings down on hinges so you can inspect and service the electrical circuits.



is here ▲

Front axle is set back 48 in. for maximum front loading and bigger payloads. This improved weight distribution, real conventional cab comfort and a "flip-forward" hood for immediate service accessibility add up to *triple* advantages in the new INTERNATIONAL DB-400 Series—Model DB-405 tractor shown above.

This conventional series, including D-400 models with 28-in. BA dimension, brings you the same high quality components and options that make the famous DCO-405 cab-over-engine models so popular with owners and operators. Nine mighty diesels to choose from—in-line, V-6 and V-8—rated from 180 to 335 hp.

Not only does the DB-405 put a maximum load on its front axle, but it has 29 standard and optional aluminum components to keep your deadweight costs down. You

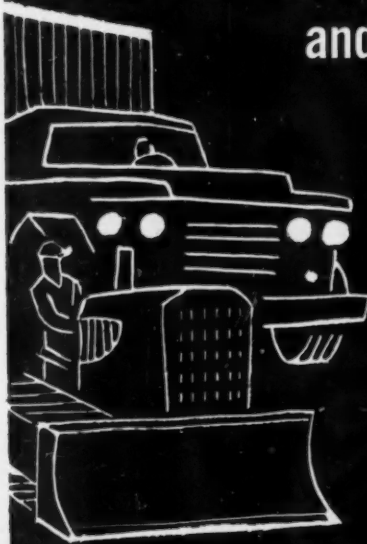
save 480 lbs., for example, with 80-in. aluminum cab over steel cab of same size.

And talking of the cab—it's spacious and comfortable, to leave an operator's attention free for the road, the load and driving. From the floor to the roof, including torsion ride seat, oversized brake pedal, sensible instrument cluster, fresh air heater-defroster and hinged dash panel, this cab was designed for the efficiency and comfort of your operators. There are three sizes, in steel or aluminum: 72 or 80-in. sleepers and 54 and 72-in. non-sleepers—one right for you.

Your INTERNATIONAL Dealer or Branch can give you all of the details about the new DB-400 Series—single or tandem-axle models for on and off-highway operations. International Harvester Company, Chicago.

INTERNATIONAL® TRUCKS WORLD'S MOST COMPLETE LINE **IH.**

HEAVY DUTY MUFFLERS and Exhaust Systems EXCLUSIVELY



For 29 years RIKER has been engineering and manufacturing NOTHING BUT heavy duty Mufflers and Exhaust Systems for Trucks, Buses, Tractors, Construction and Industrial and Off-Highway use. That's a Business with us . . . not a Sideline. RIKER is preferred Original and Replacement Equipment around the world. Designed and built to out-last and out-perform on the job. No blind corners or sharp bends where residue and condensation can collect to rapidly build up Back Pressure; heat is evenly distributed and dissipated, minimizing rust and corrosive action which might otherwise occur. Complete information on request.



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ALWAYS CHECK
THE EXHAUST SYSTEM
FIRST

RIKER MANUFACTURING, INC., 4901 Stickney Ave., Toledo 12, Ohio

More details? Circle 185 on reply card inside back cover



**HERE WE GO!
WAGON TRAIN**
MORE TONS PER TRIP
A CONVENIENT WAY TO
UNLOAD — SIDE DELIVERY —
KEEP GOING. LEAVE
ROAD CLEAR FOR NEXT
WAGON TRAIN



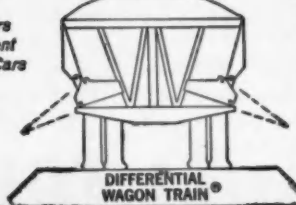
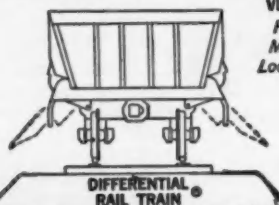
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Locomotives and Mine Cars



More details? Circle 186 on reply card inside back cover

SAFETY

Continued from page 81

Not recommended are blue, amber, "mirror-faced" or yellow.

You should be paying \$10 to \$18 a pair for quality sun glasses, Dr. Jobe says. Prescription-corrected glasses will probably cost more.

Double-bottoms on N.Y. Thruway

Two firms are proud of their recent accomplishments on the New York Thruway:

- Spector Freight System has completed a million accident-free miles with double-bottoms over the Manchester-Ripley, N. Y., runs. The Spector drivers have pulled 3-million double-bottom miles since July 1960. Only accident was a single scraped fender.

- The Thruway Authority has accepted the Mack Truck's 205-hp, turbo-charged diesel engine for double-bottom certification. Engine had to pull 90,000-lb gross weight up a three per cent grade at a minimum speed of 20 mph. Mack's Thermodyne engine is commonly used in general freight hauling.

Safety awards . . .

NEW SAFETY incentive is now provided for drivers throughout the Consolidated Freightways system. A just-adopted company-wide program features awards based on National Safety Council rules. These include driver penalty that deducts one year's safe driving credit for each preventable accident charged against him.

Safe driving awards to be presented under CF's new plan are:

- Annual (given at the end of every accident-free year in addition to long-term awards)—new CF driver uniform, NSC emblem and certificate.
- Three-year—NSC tie bar.
- Five-year—personalized engraved watch.
- Ten-year—diamond ring.
- 15-year—\$150 U. S. Savings Bond.
- 20-year—\$200 Bond.
- 25-year—\$300 Bond.

Both city and over-the-road drivers are included in the CF safety incentive award program.

American Trucking Assns. has just announced availability of a new award for driver courtesy to be presented to those who take time to help other motorists on the highways. It's also for drivers who maintain accident-free records under extremely hazardous conditions, such as bad winter weather and heavy summer tourist traffic. The "ATA Courtesy-Safety Award" is a black and yellow patch with a green cross. It's available from ATA for fleet distribution to eligible drivers.

Ringsby Truck Lines, Denver, Colo.—to 56 drivers so far this year. Ringsby awards include: Uniform trousers, gold cigarette lighter, or pen and pencil set to one-, two- and three-year winners; \$150 wristwatch for five years; \$500 diamond ring for ten years; check ranging from \$500 to \$1000 for 15, 20 and 25 years.

Bellm Freight Lines, St. Louis, Mo.—to 21 drivers for one to 18 years without accidents.

Dundee Truck Line, Toledo, Ohio—to 46 men with from one to 13 years of safe driving.

Esso Standard Division, Humble Oil & Refining Co.—to Pennsylvania Driver-of-the-Month James R. Pitts.

Bend-Portland Truck Service, Portland, Ore.—to 18 men for up to 17 years of safe driving.

Alabam and Consolidated Copper-state Lines, Phoenix, Ariz.—to 70 drivers for no-accident records of up to 23 years.

Harms Pacific Transport, Bellevue, Wash.—to 17 safe drivers for periods of one to 14 yrs.

END

Please Resume Reading Page 83

Driver Training Truck



Ford Motor Co. donated this \$18,000 1961 diesel tractor to the truck driver training school at North Carolina State College. School Director Russell M. Haynie, Jr., left, and Ford's representatives check it over on arrival at the school.

COMMERCIAL CAR JOURNAL, August, 1961



NEW, SIMPLIFIED INSTALLATION

TULSA®

FRONT MOUNTED WINCH FOR CHEVROLET & GMC

Save installation time . . . retain original factory design of your truck by using the new, SIMPLIFIED Tulsa front mounted winch kit. You do NOT need to cut bumper or remove torsion bar with this compact, sturdy winch installation. And you have lower fuel bills because it takes less power to move any load, hence, longer engine life!

Installation kit comes COMPLETE with 8,000 lb. capacity winch, Power Take-Off and drive group; bumper braces, 4-way roller assembly, all necessary nuts and bolts and complete instructions.

MINIMUM OVERHANG
RETAIN ORIGINAL BUMPER

NO NEED TO REMOVE TORSION BAR



WRITE for information bulletin
CF5C-61 today!



TULSA PRODUCTS DIVISION

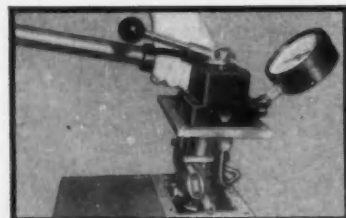
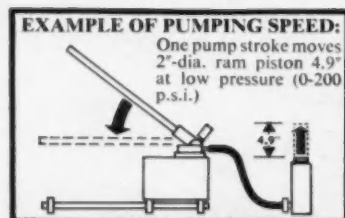
VICKERS INCORPORATED
Division of Sperry Rand Corporation
731 EAST FIRST STREET
DEPT. CJ TULSA, OKLAHOMA

More details? Circle 187 on reply card inside back cover

159



Get fast ram approach, save time with new 2-speed hydraulic pump



Pump, valving and controls mount on common cover plate; use with other reservoirs.

- Delivers a big 7.35 cu. in. of oil per stroke at low pressure (0 to 200 p.s.i.)
- Delivers .294 cu. in./stroke from 200 to 10,000 p.s.i. for high force requirements
- For operating both single and double-acting cylinders

Here is a compact, precision-built 10,000 p.s.i. 2-speed hand pump with the ability to deliver exceptionally high volume at low pressure for fast ram approach and return. Handle high-force requirements, yet waste no time getting the ram to the work! Choice of 2-way or 4-way control valve, mounted easily on cover plate; no exposed piping. Unit weighs only 34 lbs.

Ask your OTC distributor about the new OTC "Dual-master" pump.

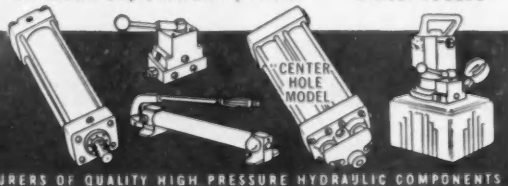


PRECISION HYDRAULICS DIVISION

OWATONNA TOOL CO.

341 CEDAR ST., OWATONNA, MINN.

CABLE: TOOLCO



DESIGNERS AND MANUFACTURERS OF QUALITY HIGH PRESSURE HYDRAULIC COMPONENTS

VEHICLES & EQUIPMENT

Continued from page 25

Aire," its principal is similar to that used in "air cars." It's expected to be on the market next year.

• **Transmissions**—International has developed two improved versions of its Select-O-Matic automatic transmissions for its heavy duty trucks. Both use a button on the gearshifts for "clutching." The T-83 is designed for stop-and-go and off-highway use, the larger T-94 is for heavier loads with more power.

• **Anti-smog devices**—Add to the list of firms submitting designs for catalyst-type anti-smog (TURN TO PAGE 168, PLEASE)

1961 Truck Trailer Shipments

Type of Trailer	May	Five Months
Vans		
Insulated and refrigerated.....	478	2,316
Steel.....	86	259
Aluminum.....	412	2,057
Furniture.....	156	537
Steel.....	124	447
Aluminum.....	32	90
All other closed-top.....	1,472	6,641
Steel.....	281	1,381
Aluminum.....	1,191	5,460
Open-top.....	268	952
Steel.....	162	364
Aluminum.....	106	588
Total—Vans.....	2,374	10,646
Tanks		
Non- and low-pressure		
Petroleum.....		
Carbon and alloy steel.....	107	437
Stainless steel.....	14	73
Aluminum.....	104	500
Total—Petroleum.....	225	1,010
Chemical, food, fluid solids.....	67	250
All other, incl. aircraft refuelers.....	210	647
High-Pressure (LPG), chemicals, etc.....	23	153
Total—Tanks.....	525	2,060
Pole, pipe and logging		
Single axle.....	26	291
Tandem axle.....	61	
Total.....	87	291
Platforms		
Racks, livestock and stake.....	88	193
Grain bodies, all types.....	55	292
Platforms (flats), all types.....	561	2,251
Total—Platform.....	724	2,736
Low-bed heavy haulers.....	260	1,156
Dump trailers.....	172	675
All other trailers.....	231	1,180
Total—Complete Trailers.....	4,373	18,754
Dump trailer chassis.....	17	166
Trailer chassis only.....	256	1,076
Total—Trailers and Chassis.....	4,646	19,996
Detachable Van Bodies.....	192	1,147

Source: Industry Division, Bureau of the Census.



"Hauls more . . . earns more . . . stands up better" **Diamond T fiberglass Tilt-cab**

So says E. E. Farmer, of Farmer Beverage Co., Inc., Waukegan, Illinois. "A year ago," he added, "we put the Diamond T 534CG on the same runs with competitive makes."

"The Diamond T turned in better gas mileage and required less maintenance. It's still tight, rattle-free and looks like new."

Now it's new-truck-buying time for Mr. Farmer. His choice—a fleet of fiberglass 534CG's!

This cab weighs less, lives longer

It cannot rust, rot or corrode. It retains its gleaming glass-smooth finish for years. Cab is counter-balanced, tilts wide open by hand in just seconds for outstanding service accessibility.

Fiberglass is strong. Impact resistance is greater than for steel and its cushioning effect absorbs shock. It is practically impossible to dent or produce a permanent set in fiberglass. Should damage occur, it can be repaired quickly and easily at very low cost.

Wet-sleeve engines

Diamond T Tilt-cabs have the finest power plants on the road—Diamond T wet-sleeve Super-Service engines, Six or V-8 to 235 h.p. These engines out-live others, deliver better gas mileage, need less maintenance over a longer "prime of life."

Let your Diamond T distributor show you what the fiberglass "CG" series can do for you!

DIAMOND T TRUCKS

Established 1905



***The Diamond
is for Quality***



If your trucks flash more than 6 lights, you need

KAY-LAB® Heavy-Duty Universal Flashers

Kay-Lab heavy-duty Universal flashes up to sixteen 32-cp lamps singly, alternately, or in unison — and/or sounds warning horn. Fully meets latest ICC requirements. Is unaffected by road shock and vibration. Takes place of motor, at 1/2 the cost, in motor-driven warning lights, without changing wiring or switch. Operates magnetically. Flashes all candlepowers — no need to match flasher to lamps. Requires no lubrication or upkeep. 6 and 12 volts.

Kay-Lab Stop-It Flasher for trucks flashing six or fewer turn and warning lights. 6, 12, 24 volts.

For long, safe service at low cost, order Kay-Labs. Specified nation-wide by safety engineers, police and fire departments. Available from automotive jobbers . . . or write us for folders and prices.



Dealer inquiries invited.



KAY-LAB FLASHERS

MANUFACTURED BY MACCHI & COMPANY
819 VALENCIA ST., SAN FRANCISCO 10, CALIF.

More details? Circle 190 on reply card inside back cover

REMOVE SNOW FASTER • EASIER LESS COST

MONARCH

Monarch Power Hydraulic Controls

Get the jump on winter—get set now for faster snow removal with Monarch Power Hydraulic controls!

With Monarch, lift and lower your snow plow right from the cab . . . automatically. Instant up-and-down action with the flick of the wrist. A Monarch control is quickly installed. See your dealer or write for illustrated folder.

DYNA-MIGHT Battery-Operated

HY-LO-JACK HY-LO for Jeep Fan Belt Driven

MONARCH ROAD MACHINERY COMPANY
1331 Michigan St., N.E. Grand Rapids 3, Michigan, U.S.A.

More details? Circle 192 on reply card inside back cover

162

Mahon rolling steel doors

SAVE SPACE
SAVE SERVICE
SAVE COSTS

In sizes and types to fit your application

Rolling Steel Doors are the proven and best way of closing any type opening. For a plant, distribution center or loading dock—in new or remodeled facilities—Mahon has the right Door for the job. Rugged, easy operating, Bonderized (and synthetic baked enamel protected) Steel Doors, power or manually operated, will give you long, trouble-free service. If damaged, they are completely repairable by an experienced Mahon crew . . . service contracts available.

Write for detailed 16-P Catalog G-60 or see Sweet's Files for full information.

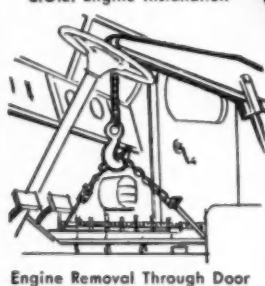
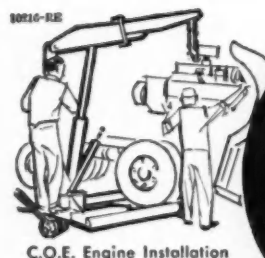


M A H O N

THE R. C. MAHON COMPANY • DETROIT 34, MICHIGAN

Manufacturing Plants—Detroit, Mich. and Los Angeles, Calif.
Sales Offices or Representatives Located in All Principal Cities

More details? Circle 191 on reply card inside back cover



RUGER

MULTI-PURPOSE CRANES
FIRST CHOICE FOR REPAIR
AND MAINTENANCE
OF MOTORIZED
EQUIPMENT

The world's most versatile crane will meet your every need in servicing all types of highway and off-the-road equipment. Specify a RUGER for every lifting job in your shop . . . complete flexibility . . . complete safety . . . always at lower cost.

- Gas and Diesel Engines
- Air Compressors
- Transmissions and Differentials
- Springs and Radiators
- Saddle Tanks and Fifth Wheels
- Test Stand Handling

CAPACITIES TO 3 TONS

RUGER

EQUIPMENT, INC.
635 W. Fourth St.
Uhrichsville, Ohio



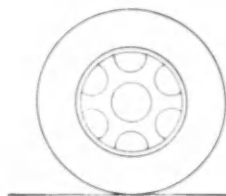
The Crane with 1000 uses

More details? Circle 193 on reply card inside back cover

BRAKE MAINTENANCE TIPS FROM GREY-ROCK

Brake Input, Brake Output and K-factor

THE K-FACTOR



K-FACTOR = .6

K-factor (coefficient of rolling friction between tire and road) equals approximately .6 on dry concrete. Will be less on asphalt or if road is wet or oily. If brake input is too great in relation to K-factor, wheels will slide. If input is too small, braking distance is increased.

The K-factor is the maximum retarding effect that can be achieved between the tire and the road surface. For all practical purposes, its value is .6 on dry concrete—less on asphalt. This means the brake should be able to exert 60 lb. of retarding force for every 100 lb. of gross vehicle weight.

It is the K-factor, or friction between the road surface and tire, that brings the vehicle to a stop. The value of the K-factor determines stopping distance, so long as none of the wheels lock. If a wheel locks, braking is accomplished by the tire sliding on the road, which increases the danger of skidding, loss of steering control, and excess tire wear.

Brake Input

The force used to expand the brake shoes and bring the lining into contact with the brake drum is called brake input. The amount of input is determined by the design of the brake application system. There are three basic systems:

Hydraulic. Brake input in a hydraulic system with no power unit will

depend on the force the driver exerts on the brake pedal. It is determined by the mechanical leverage between the foot pedal and the master cylinder, and by the ratio between master cylinder size and wheel cylinder size.

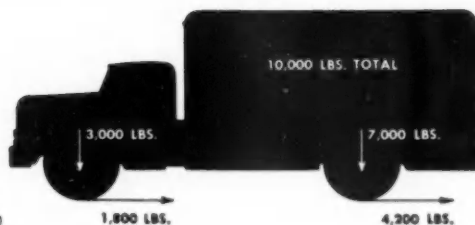
Vacuum Assist. A power unit will multiply brake input force at an increasing rate as the pedal is depressed. When maximum power unit output is obtained by fully depressing the pedal, it should be possible to slide the wheels on concrete if the brake system is properly designed and balanced.

Air. In an air-actuated system, brake input is controlled by an application valve that meters the air pressure. Maximum required input is determined by the size of the vehicle, type of brakes, service conditions, and other factors. If operating experience indicates that an increase or decrease in braking is desirable, it can be achieved by changing brake lever length or brake chamber size.

Brake Output

Brake output is the work that a brake

BRAKING FORCES BETWEEN TIRE and ROAD



60 lbs. of retarding force required for every 100 lbs. of gross vehicle weight.

Total retarding force = 1,800 + 4,200 = 6,000 LBS.

is capable of doing and is proportional to input, but can be varied by changes in brake assembly and tire size. The easiest and least costly way to change output is to use a lining having a higher or lower coefficient of friction. A lining having too low a friction may harden in service and result in insufficient output. Too high a friction may result in erratic brake action, poor steering control, or a tendency to jackknife.

Any change in the rolling radius of the tire makes a corresponding change in brake output. A larger tire makes brakes less effective unless drum diameter is increased. The reverse is true of smaller tires. No change in tire or wheel size should be attempted without making necessary calculations to determine mechanical modifications necessary to compensate for the change in ratio.

Grey-Rock lining, blocks and brake parts offer you greater dependability and safety . . . less down time . . . and lower operating cost per mile. See your Grey-Rock jobber or write Grey-Rock Division of Raybestos-Manhattan, Inc., Manheim, Pa.

Only **Grey-Rock®** makes **BALANCED BRAKE LININGS**

BALANCED BRAKES • TRUCKSETS • BRAKE BLOCKS • VEE-LOK® CLUTCH FACINGS • AUTOMATIC TRANSMISSION PARTS

You Can't Buy a Better Brake Lining to Save Your Life



Fruehauf's Stainless Steel Trailer is ahead by a country mile

*New price reductions promise even
more stainless units on the roads*

Advanced engineering and manufacturing techniques in the production of the premium semi-trailer on the highway today . . . Fruehauf Stainless Steel Vans . . . have made possible reduced prices on the line. This news is being welcomed by fleet owners and operators everywhere.

Fleet operators have replaced trailers made of other than stainless steel several times over while their stainless units have kept delivering payload with virtually no exterior maintenance. These operators have records full of evidence of the value of stainless trailers and their acceptance of the new price announcement is most enthusiastic.

Perhaps even more interested should be the people who have heard of the better values in stainless trailers but who have



been stopped by the high premium charged for the best.

Fruehauf's new prices now bring stainless trailers within a few percent of the cost of trailers built of other materials. The stainless unit provides even greater hauling profits, combining increased strength and capacity with added years of almost maintenance-free durability.

The new lower prices just announced by Fruehauf were a result of their continual, extensive cost reduction program. Allegheny Ludlum, as the major stainless steel supplier, worked right along with the Fruehauf engineers and production men on this program.

A-L research and application engineers are at your service, too, for counsel on fabrication techniques and the economical use of Allegheny Stainless in your product. *Allegheny Ludlum Steel Corporation, Dept. MID 2, Oliver Building, Pittsburgh 22, Pennsylvania.*



**ALLEGHENY
LUDLUM**



**Cut
Towing
Costs..**

WITH A
**WATSON
Towmaster**
(Detachable Truck Retriever Crane)



Typical of the many nationally-known fleets using TOWMASTERS, Pacific Intermountain Express uses the WATSON TOWMASTER to retrieve even the heaviest "West Coast" type tractors. Saves on downtime—operator tows out a good tractor and the load is on its way as he returns to the shop with the disabled one. TOWMASTER Truck Towing Cranes can be attached to or removed from any tractor fifth wheel in 10 minutes or less. "Lift-off" winch makes it an easy one-man job. Has plenty of capacity for all highway breakdowns and most wrecks, too—even 3-axle rigs. Costs less than \$600.00—why pay more? Write for free catalog today. Please address Dept. 18.



H. S. WATSON COMPANY
1316 - 67TH STREET, EMERYVILLE 8, CALIFORNIA
1606 LASKEY ROAD, TOLEDO 12, OHIO

More details? Circle 196 on reply card inside back cover

**FITZGERALD
GASKETS**
have the
answer

*A full line of complete sets
for engine rebuilding. Use
a Fitzgerald RS set today.*



WITH
THE
ADDED
EXTRA

Craftsmanship

The Fitzgerald Manufacturing Co.

Torrington, Connecticut
Branches and Warehouses
Los Angeles, Calif.—Chicago, Ill.
Canadian FITZGERALD Ltd., Toronto, Canada.

More details? Circle 197 on reply card inside back cover

Engler
HUBODOMETERS

give accurate, dependable mileage records



for:

**Interchange records • Tire
records • Rental records
Maintenance records • Ton Mile
records • Leasing records**

Other Products: Tachographs • Hour Meters • Speed Warners

**Engler
Instrument Co.**

250 Culver Avenue, Jersey City, N. J. Phone MEnderson 4-6500

More details? Circle 198 on reply card inside back cover

**Prevent Dock
Damage ...
Protect Fragile
Cargo With ...**



**Low Cost
FLEX-O Rubber
Dock Bumpers**

■ Here's a ruggedly built dock bumper that minimizes dock, truck and freight damage by absorbing the impact of trucks backing into docks. Easily installed on wooden or concrete docks, they are the only bumpers made from resilient reversible rubber reinforced fabric that give you double service life. The bumpers will remain resilient even when frozen ... require no covering and will not flatten or pack.

Write for detailed literature and prices.



BUMPERS, INC.

Subsidiary of Rowe Methods, Inc.
2534-E Detroit Ave. • Cleveland 13, O.

More details? Circle 199 on reply card inside back cover

FROM COAST TO COAST . . .
wherever you see this sign

CRACKED

**ENGINE HEADS and BLOCKS
ARE STRESSED-RELIEVED**

and returned to service

STRONGER THAN EVER

Quickly! Efficiently! Economically!

**AUTHORIZED
SALSBURY
IRONTITE
SYSTEM**

**CRACKED
ENGINE**

**BLOCK & HEAD
REPAIR
SERVICE**



Fleet owners and maintenance men who used to throw away cracked blocks and heads are now saving many thousands of dollars formerly spent on replacement units . . . thanks to the time-tested Salsbury Ironite system of cracked block and head repair. "Down time" is reduced to a minimum. Blocks and heads are repaired fast, dependably, economically. They are permanently stress-relieved. Satisfaction is guaranteed. Authorized Salsbury Ironite Repair Stations are located in principal cities from coast to coast. Contact the one nearest you, or write to SALSBUURY CORPORATION, (Dept. (CJ)), 1161 E. Florence Avenue, Los Angeles 1, California.

**PARTIAL LIST OF SALSBURY IRONTITE MOTOR BLOCK
AND CYLINDER HEAD MODIFICATION STATIONS:**

ALBUQUERQUE, N. M.
Pound Bros.
412 Marble St.

CHICAGO, ILLINOIS
Sureway Automotive
Engr. Co.
1734 W. North Ave.

DALLAS, TEXAS
Dallas Head & Block
2615 Parvia St.

HOUSTON, TEXAS
Motor Machine Co.
1310 Polk Ave.

JACKSONVILLE, FLA.
Bill Graham
143 Capeland St.

LOS ANGELES, CALIF.
West Head Shop
5420 S. Santa Fe

MANCHESTER, N. H.
Motor Rebuilding
27 Sagamore St.

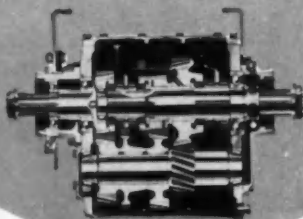
NEW ORLEANS, LA.
Piston Ring Service Co.
1200 S. Clairborne Ave.

PORTLAND, OREGON
Northwest Motor
Welding
3063 N. Michigan

SACRAMENTO, CALIF.
Capital Cylinder Head
Shop
2030 Third St.

SEATTLE, WASH.
Engineering Develop-
ment Co.
1415 W. 49th St.

- High Capacity
- Low Initial Cost
- Reduced Maintenance
- Flexibility of Ratios



for medium-heavy duty trucks
and tractors,
specify one of the eight

Fuller '65 Series 3-Speed Auxiliary Transmissions

available from all truck
manufacturers upon specification.
*Top-mounted power take-off
optional.*

'65 SERIES (Medium-heavy-duty) RATIOS

MODEL	SPLITTER RATIOS		DEEP REDUCTION
	High	Inter- mediate	Low
3-A-65	.754	1.00	2.221
3-B-65	.804	1.00	1.239
3-C-65	.754	1.00	1.239
3-D-65	.804	1.00	2.221
3-E-65	.804	1.00	1.74
3-F-65	.754	1.00	1.74
3-G-65	1.00	1.32	2.221
3-H-65	1.00	1.32	1.74

For the right transmission
for every operation

Specify



Specify the **MODEL**

**FULLER TRANSMISSION
DIVISION**

EATON MANUFACTURING COMPANY
KALAMAZOO, MICHIGAN

More details? Circle 263 on reply card

168

VEHICLES & EQUIPMENT

Continued from page 160

devices to the State of California: Oxy-Catalyst, Inc., Berwyn, Pa.; W. R. Grace & Co., Clarksburg, Md.; Walker Manufacturing Co., and American Cyanamid Co., Racine, Wis. So far, 14 devices have been rejected by California. As soon as two meet the standards, within a year they'll be required on all new cars sold in California. Trucks and used cars must have them within three years after the systems are chosen.

• **Nylon cord tires**—Use of nylon in truck tires set a record in the first quarter of this year. Some 60 per cent of replacement tires had nylon cord (up from 55 per cent in 1960). And nylon accounted for 36 per cent of original equipment bus and truck tires, says Chemstrand Corp. Replacement passenger tires passed the half-way mark—up to 51.87 per cent from 49.86 per cent during 1960.

• **Change in "Presto-O-Lite"**—It's now "Prestolite," (dropping the hyphens) in a move to give the 57-year-old name "a bright new lustre." Electric Autolite will use the Prestolite name on a line of batteries, spark plugs, wire and cable, and electrical products.

TTMA adds staff engineer

New staff engineer with the Truck Trailer Manufacturers Assn. is Charles P. Hoffman, Jr. He formerly was an automotive engineer with American Trucking Assns. for six years and more recently a sales engineer with Hydro-Aire Co. He is chairman of the Washington, D. C., SAE section.

Sealed Power is also 50

Another company joins the list of firms celebrating simultaneous 50th Anniversaries with COMMERCIAL CAR JOURNAL this year.

Sealed Power Corp. was 50 years old in June. In celebration, it dedicated a new \$1-million research center. The center has, among other features, a complete chemical and metallurgical lab and facilities for physical testing.

New refrigeration standards

Air conditioning and Refrigeration Institute has published standards for variable-speed transport refrigeration units using forced-circulation air coolers.

ARI Standard 1120-61 is available from ARI, 1346 Connecticut Ave., Washington 6, D. C., for 75¢.

END

Please Resume Reading Page 29

Newest by Pure



Pure Oil Co. has opened another of its complete truck stops, this one eight miles south of Mansfield, Ohio, at Interstate 71 and State Route 97.

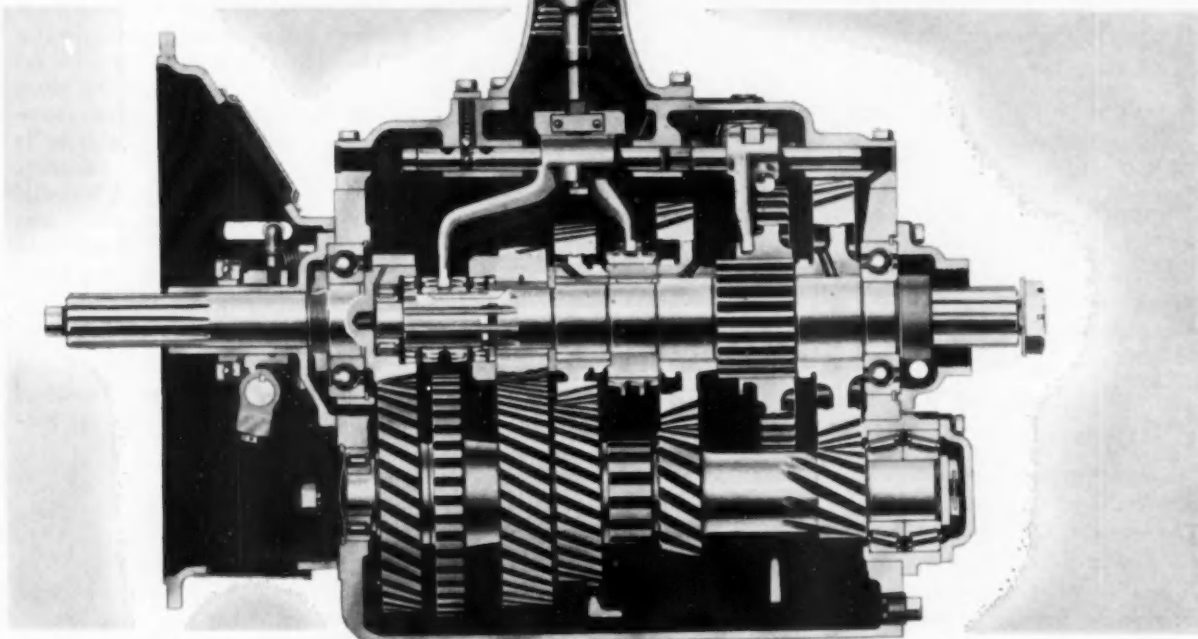
Truck stop has 24-hour, radio-dispatched road service, air-conditioned roomettes, showers and restaurant. It has parking facilities for 100 rigs.

COMMERCIAL CAR JOURNAL, August, 1961

New Light Heavyweight...

FULLER

Models **5-H-74**
5-HA-74*



the lightest transmission designed for diesel engines—from 190 hp to 250 hp

In keeping with the trend toward high capacity, light-weight components, Fuller has released its new Model 5-H-74 5-speed Transmission.

The NEW 5-H-74 offers:

* Model 5-HA-74... even lighter weight — 93 lbs. less — with *aluminum* case and clutch housing

- mainshaft of greater diameter
- high capacity mainshaft pilot bearing
- wide gear faces
- all helical gearing—low tooth pressures
- short, quick shifts—jaw clutch engaged
- short installation—25 $\frac{1}{4}$ " in length
- extremely high ratio of capacity to weight

SPECIFICATIONS
Gear Ratios

5th	1.00
4th	1.17
3rd	1.98
2nd	3.61
1st	6.60
Rev.	6.51

Weight:

Model 5-H-74—461 lbs.

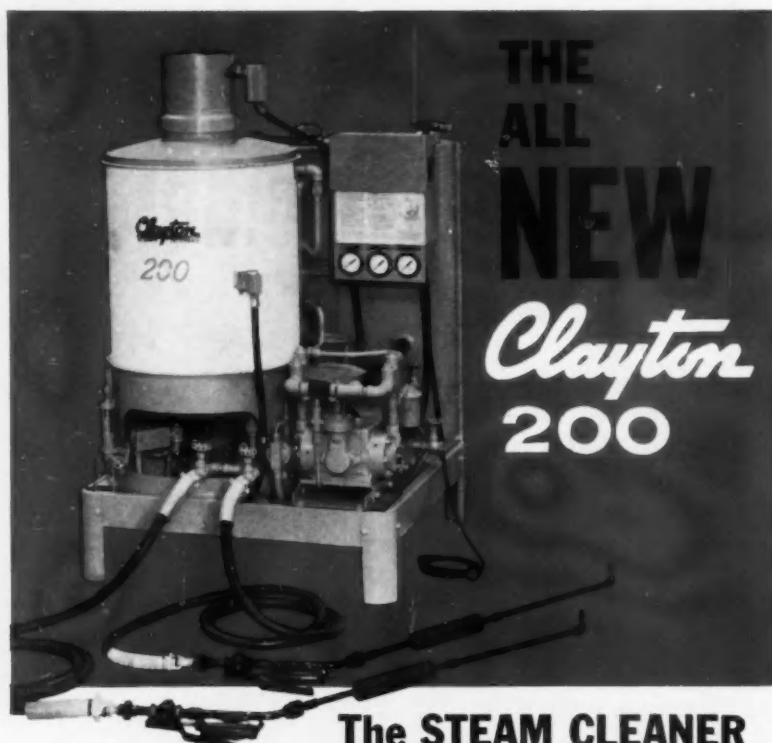
*Model 5-HA-74—368 lbs.

Oil Capacity: 12 quarts.

Length: 25 $\frac{1}{4}$ inches.

FULLER TRANSMISSION DIVISION
EATON MANUFACTURING COMPANY
KALAMAZOO, MICHIGAN

Sales & Service: West. Dist. Branch, Oakland 6, Cal. • Southwest Dist. Office, Tulsa 3, Okla. • Automotive Prod. Co., Ltd., Automotive House, Great Portland St., London W. 1, Eng., European Rep.



The STEAM CLEANER that really gets the job done

Now fleet shops and garages can get real 200 GPH heavy duty cleaning power at both an operating and original cost substantially less than before. The versatile 200 develops a full 100 psi working capacity within three minutes from a cold start. For use with either two 100 GPH or one 200 GPH guns, a remote control feature automatically puts the cleaner on standby, instantly ready for the next cleaning job.

Clayton's exclusive 75% guaranteed thermal efficiency, oil lubricated water pump bearings, ring thermostat are featured in the 200. Available oil or gas fired; stationary or portable. The 200 carries Clayton's exclusive GOLD BOND WARRANTY.

Clayton MANUFACTURING COMPANY

433 N. Temple City Boulevard, El Monte, California

*See a demonstration in your own shop, on your own work...
no cost, no obligation. Send coupon or write on your letterhead*

TO: CLAYTON MANUFACTURING COMPANY

I would like to see a Demonstration.

NAME _____

ADDRESS _____

STATE _____

FIRM _____

More details? Circle 202 on reply card inside back cover

Truck scales

Continued from Page 104

Picture the truck driver who races onto a scale, slams on his brake and comes to a quivering halt. He's the scale designer's nightmare. Scales just can't be built to weigh accurately and take the kind of treatment hot rod truck drivers can give them. That's why the scale operator must be trained not only to get accurate readings from the scale, but also to protect it from abuse.

Most important single item in getting long life and accuracy from scales is the initial installation. The site, approaches and drainage all come into the picture.

Here's how your scale site plans should measure up:

- **Drainage**—Water should drain away from the pit. Seepage is one of the most common causes of scale failure, ranks high in condemnations.
- **Approaches**—Any incline will cause a truck to give the scale a severe jolt. The approach to the scale should be level with the scale platform throughout the weighing operation.
- **Soil**—Scale site must be able to support the piers and walls.
- **Installation**—While your mechanic will be qualified to perform PM on the scale, chances are he's not qualified to design the pit or install the weighing mechanism. Hire a professional.

And finally, your scale should be checked regularly. When it begins to make errors through friction (weighing "light"), it won't announce the fact. Your first sign of trouble may be an overweight fine.

Weights and measures men say too many fleetmen balk at having their scales tested. But where's the logic? The function of scales is to save its owner money. When they're accurate, they do.

END

Please Resume Reading Page 106

Announcing...

AMERICA'S MOST ADVANCED OIL SEAL

TROSTEL RED LIP



cuts friction... seals hot or cold
prevents leakage... lasts longer

Never before has there been a seal like this... so trouble-free that once installed your job is **done!** See your jobber.

ALBERT TROSTEL PACKINGS, LTD.



LAKE GENEVA, WISCONSIN • A complete producing organization for OIL-SEALS, O-RINGS, PACKINGS

CUT FLEET TIRE COSTS

with

"Balanced Inflation"

...automatically



ECO TIREFLATOR

One Eco Tireflator® in your truck shop can equal in annual cost-savings one free new tire for every truck in your fleet! Automatic Eco "Balanced Inflation" increases tire mileage—up to 20% more than you get from improperly-inflated tires. Tireflator trims checking and tire inflation to a labor-saving one-step operation—no gauge-hunting, no trial-and-error.

Whether your fleet is large or small, Eco Tireflator's "Balanced Inflation" lowers losses from vehicle down-time, helps maintain tight schedules, and increases tire life and safety.

Wall, post, and remote-control models let you put Eco Tireflators wherever they serve you best.



JOHN WOOD COMPANY

BENNETT PUMP DIVISION
Muskegon, Michigan

Used oil heats shop

Continued from Page 106

The Leon J. Barrett Company, Worcester, Massachusetts. As installed at the Adley shop, it's fully automatic. Heating, settling and draining off cleaned oil is on an automatic cycle. Only manual operation is to periodically draw off sludge and water from the sump.

Adley's main maintenance shop is gigantic. It's 48-ft long, 125-ft wide and has 29 service bays including inspection lanes. Heating is normally by No. 6 bunker oil. This is so heavy it needs a circulator to keep it warm and suitable for combustion. Circulating 50 gal per minute, it quickly mixes the used motor oil in with the bunker oil.

The "blend" is actually an improvement over straight bunker. Motor oil has a higher flash point, tends to improve burning qualities of the bunker oil.

Adley uses about 40,000 gal of motor oil a year in its entire system. During the first year, the fleet recovered about 1000 gal per month or 12,000 gal for the year. Adley figures on increasing this to 20,000 gal annually. With No. 6 bunker oil costing about 6½¢ per gal this will save near \$1300 a year in direct fuel costs. Terminals throughout the Adley system are sending their used oil back to headquarters when time and space requirements permit. This will help cut fuel costs further.

In addition to the fuel cost savings, the recovering process has boosted cleanliness and safety. There aren't any containers of used oil around anymore. As oil is drained from crankcases, it goes by pipe directly into the outdoor storage tank. Fire hazards are virtually eliminated.

When there's enough motor oil in the storage tank it's processed at once and added to the fuel tanks.

Adley's investment in the sterilizer is about \$2000. It will pay for itself after two years of use. After that, all oil recovered for heating use will be clear profit—or savings—depending how you look at it.

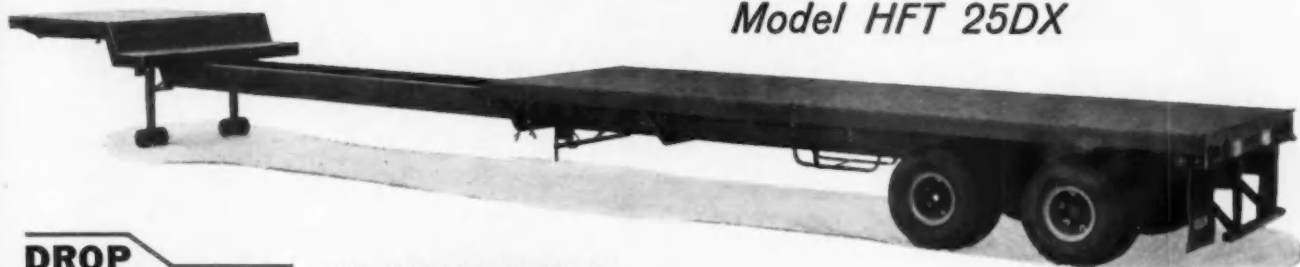
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Please Resume Reading Page 119

Another NEW TRAILER by the PROGRESSIVE LEADER

ROGERS

Model HFT 25DX



DROP DECK X-TENDIBLE

The *Ultimate* in an "ALL PURPOSE TRAILER"

~ FEATURES ~

1. Can be used in place of low bed trailers on many moves. Carry loads 8' high without a permit.
2. It has all of the features of the extendible high flat for handling long loads.
3. Deck height of 44" is 12" less than a conventional high flat which allows handling of higher loads without obtaining special hauling permits.
4. Low center of gravity eliminates much of the side sway created by high loads.
5. It features a "foolproof" air-operated deck lock.

*Haul Long, Unwieldy
Loads in
OPEN POSITION
44' or 53'*

NOW, in response to repeated requests for something new and different in an "all purpose trailer," we offer Model HFT25DX; a drop deck, high flat extendible trailer that will profitably ease the full time work schedule on your low boys. There's a place for one or several in every fleet.

They will work for you at a lot lower "cost per haul" than ever before on many of your routine and special operations.

Better yet, this unique alloy I beam trailer is available to you through your nearest Rogers distributor at popular prices.

Naturally, you'll want all the facts. See your distributor or drop us a line for prompt action.



Haul Massive High Loads in CLOSED POSITION — 35'



The Ultimate in Trailers

ROGERS TRAILERS INCORPORATED • ALBION, PENNSYLVANIA

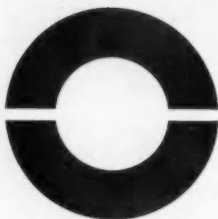


EFFECTIVE SEPTEMBER FIRST—EVERY BATTERY
IN YOUR FLEET WILL BE OUT OF DATE

simply say Delco

... and get the battery that does it—the new Delco DC-250 High-Duty ■ This is tough talk from the world's toughest fleet battery ■ Pick the roughest runs and the toughest electrical loads in your fleet. Try the new battery giant—Delco DC-250 High-Duty—and watch it do its stuff ■ Check it when you normally would expect a fleet battery to fail. You'll find DC-250 has just reached its prime of life. The powerful pace it sets will soon become the standard for battery performance in your fleet. So the sooner you get your whole fleet started with DC-250's, the sooner you'll start really saving by cutting downtime and replacement costs over the long haul ■ If your fleet duties demand peak battery performance *plus* long life—see your Delco Battery supplier. **Delco Batteries** are distributed nationally through **United Delco**

UNITED MOTORS SERVICE, Division of General Motors Corporation





DELCO NEW DEPARTURE SENTRI-SEAL

DELCO HYATT WOUND ROLLER

DELCO NEW DEPARTURE LAND-RIDING SEAL AND TRASH SHIELD

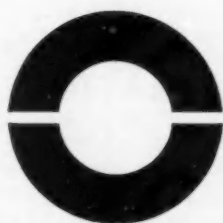
DELCO HYATT METRIC SERIES

simply say Delco

AND REDUCE UNPLANNED DOWNTIME...

Keep rolling equipment on the move; keep stationary units and tools in operation by making necessary bearings replacements with Delco New Departure Ball and Delco Hyatt Roller Bearings. They have become the standards of the industry because of their reliability and long life under the most severe service conditions. ■ **METRIC SERIES** . . . Precision roller bearings with built-in extra capacity for transmissions and gear boxes. **WOUND ROLLER** . . . Made in all sizes, operates with inner race or directly on shafting. **LAND-RIDING SEAL AND TRASH SHIELD** . . . Excellent for severe contaminant conditions, moist or dry. **SENTRI-SEAL** . . . Most popular seal today. For every contaminant condition. ■ Whatever the reason for equipment being out of service and in the shop, the important thing is to get it on the job quickly and keep it working. Your Authorized Delco New Departure and Delco Hyatt Bearings Distributor can help you do it. These top quality, precision **Delco New Departure** and **Delco Hyatt Bearings** are nearby, distributed nationally through **United Delco**

UNITED MOTORS SERVICE, Division of General Motors Corporation



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• More Effective
SHOP MAINTENANCE

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Geared to your floor problems.



Magnus offers a complete line of specialized cleaners for every type of surface — from stone floor coverings to grease-encrusted concrete.

HAND CLEANERS

Specifically for mechanics. Fast-cleaning, lanolin-rich.



Take your pick — powdered, waterless or the new liquid waterless — a full line of economical, yet effective hand cleaners geared to automotive needs.

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Unique, specialized paints and finishes.



Magnus is your source for specialized paints and finishes to answer your specialized problems — from oil resistant floor enamel to liquid aluminum roofing.

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Please send FREE Shop Maintenance Guide.

Name _____
Company _____
Position _____
Address _____
City _____ State _____

More details? Circle 264 on reply card

TRUCK FLEETS

Continued from page 13

bargaining over a large geographical area. This will help in the plan to bargain with all trucking management concurrently, strike against all organized fleets in nation.

Delegates also elected Hoffa president of the union for another five years, heard plans to move the union's Washington office to Detroit.

Private Truckers' Decker dies

C. S. Decker, president and a founding member of The Private Truck Council of America, died June 28. He had been elected president of the council in January, 1960, re-elected this year.

H. H. Lincoln, assistant manager of Standard Brands' distribution division and eastern vice president of PTC, was elected to fill Mr. Decker's unexpired term.

Colbert quits as Chrysler head

L. L. (Tex) Colbert quit his post as board chairman and president of Chrysler Corp., July 27. He had been under fire from a group of Chrysler stockholders for more than a year.

He quit declaring he was "the undeserved target of a great deal of unwarranted harassment." He added he was pleased he left the company in a "strong, sound financial position."

L. A. Townsend, former vice-president, replaces Colbert as president.

FBI looks for fleeing mechanic

Federal Bureau of Investigation is conducting a cross-country search for James Marvin ("Tut") Tuttle for fleeing a year ago from Orange Co., Cal., to avoid prosecution for rape.

He's 37, white, small (barely over five feet tall, 130 lb), light hair, blue eyes, and has scarred face from cuts. Tuttle walks with

(TURN TO PAGE 182, PLEASE)

SAVE \$800

per year per truck

with Servis Recorders

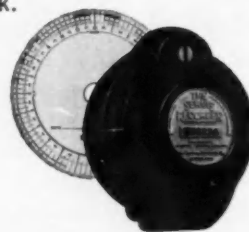


Automatic! Tamperproof!

Records Travel Time and Idle Time of Trucks

Here's the business-like way to check up on delays and overtime. It also gives you a basis for improving scheduling.

Many companies have bought these by the dozen and now have hundreds in daily use. Good drivers like the SERVIS RECORDER and its record of a good day's work.



Makes a clear record on permanent charts. No mechanical hook-up. You could nail it on and it would work! Various models available including a Speed Recorder.

Write for Literature

SERVICE RECORDER CO.

1013F Rockwell Ave. • Cleveland 14, Ohio
CHARTING OUR 2nd HALF CENTURY

More details? Circle 265 on reply card

COMMERCIAL CAR JOURNAL, August, 1961



BRAKE PARTS ASSORTMENTS are designed to break brake service bottlenecks



MASTER AND WHEEL CYLINDER KIT ASSORTMENT



Brakes need tune-ups too, and the practical way . . . the profitable way to service them is from these EIS Service Assortments. They save time and speed your work as they "hand" you the parts you need as you require them. Compartments are stock-check labeled . . . Kit and Cylinder packages are clearly imprinted with specific car, model and year application information.

EIS Service Assortments contain tailor-made groups of fast-turnover brake parts and provide lots of space for inventory expansion. Counter merchandisers, display boards, small parts dispensers are FREE with the assortments you purchase.

**DESIGNING
ENGINEERING
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all under one roof

Whether you replace, repair or rebuild . . . make sure you have the EIS Service Assortment that fits your shop requirements best. Ask your EIS Distributor for detailed information or write for EIS catalogs.

EIS AUTOMOTIVE CORP., Middletown, Conn.



- MASTER CYLINDERS AND KITS • WHEEL CYLINDERS AND KITS • SWITCHES
- CLUTCH CYLINDERS AND KITS • POWER BRAKE PARTS AND KITS • HOSES
- PLAIN CUPS • RIBBED CUPS • RIBBED SECONDARY CUPS • FILLER-TYPE CUPS
- EIS-O-VAC POWER BRAKE TESTERS • BLEEDER TANKS • SAE "SUPER" BRAKE FLUIDS • CABLES



CERTIFIED
For New York Thruway
operation...



Pulling up long grade from toll booth on N. Y. Thruway, this "double-bottom" rig is easily handled by Mack 205 HP Turbocharged Thermodyne diesel, which clocked 60,000 trouble-free miles in first eight months of service. Typical tachograph recording (shown above) certifies Mack's ability to handle steepest grades at Thruway Authority's speed requirements.

205 HP Mack Turbocharged Thermodyne diesel handles 90,000 GCW!

What better proof of the power output of Mack's 205 HP Turbocharged Thermodyne® diesel than the fact of its certification for 90,000 GCW "double-bottom" Thruway operations. Recent operations by Central New York Freightways, Inc. "double-bottom" rigs hauled by Mack 4-wheel tractors and powered by Mack's 205 HP turbo diesel engines easily met the Thruway Authority's speed requirements for the steepest grades with GCW of 90,000 lbs.

Says W. W. Patterson, Jr., President of Central New York Freightways, Inc., "Right off the bat we save over 500 lbs. of engine weight with these Mack turbo diesels, and even with these big loads our fuel average is a good 4½ to 5 mpg. Another advantage with us is the fact that these Macks can be used off the Thruway with a 40' single trailer—within 50' length—which means we can run them anywhere in our varied operation.

More details? Circle 209 on reply card inside back cover

This flexibility, plus lower initial investment and lower operating costs makes the Mack turbo a natural for Thruway operations."

Before you consider another truck, get the full story of the Mack Turbocharged Thermodyne diesel. Your nearest Mack branch or distributor has owner proved performance records that can point the way to real savings in your hauling operations. Mack Trucks, Inc., Plainfield, New Jersey. Mack Trucks of Canada, Ltd., Toronto, Ontario.

9414

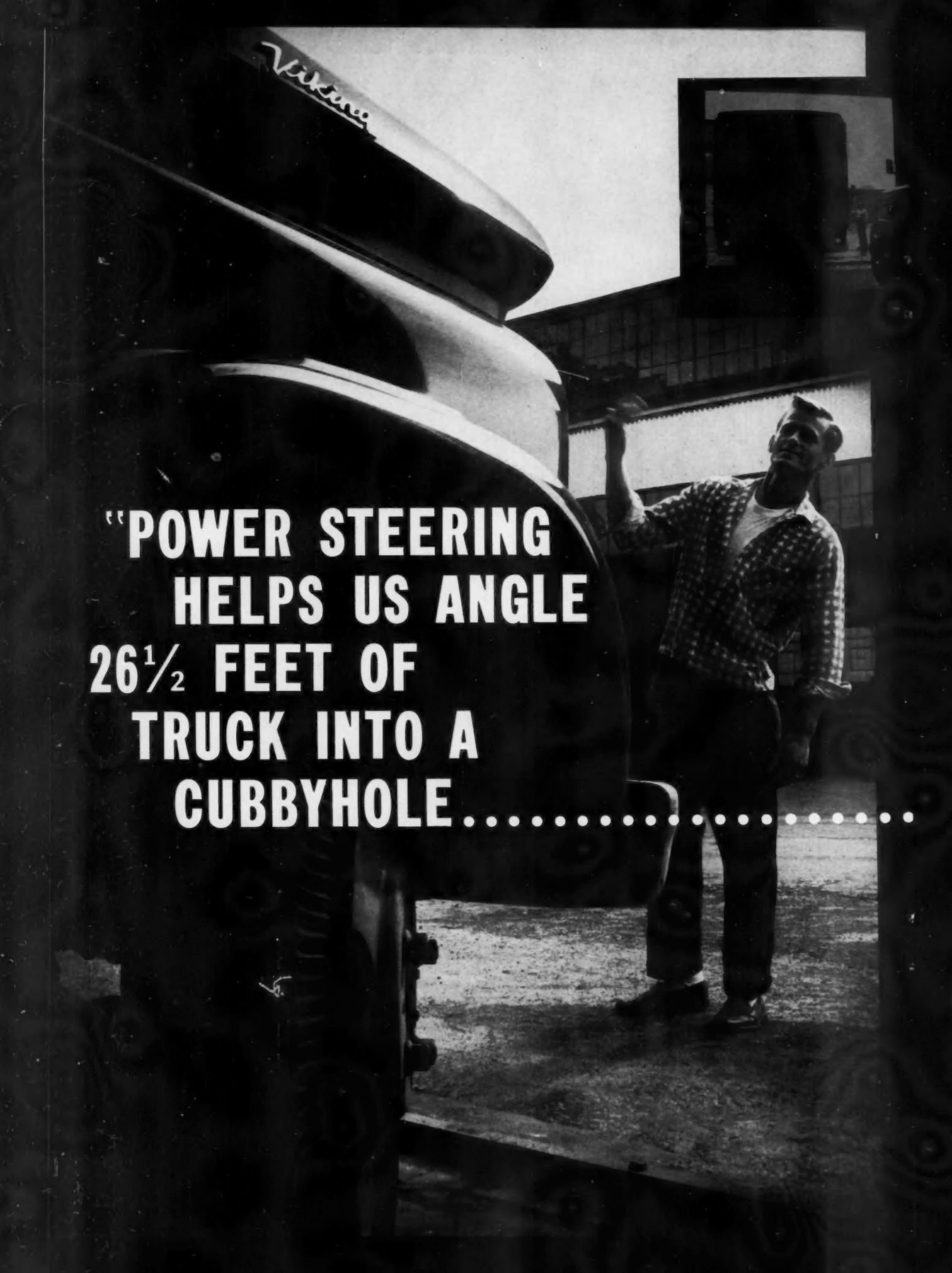
MACK
FIRST NAME FOR
TRUCKS






At Central New York Freightways' terminal this Mack B673T turbo diesel model (right) arrives with single trailer from Thruway interchange . . . picks up another 40' trailer for local delivery (below). Two-axle Mack tractors with turbo diesel engines are completely interchangeable with all other power units in fleet . . . eliminate need for maintaining special tractors to handle "double-bottoms."





**"POWER STEERING
HELPS US ANGLE
26½ FEET OF
TRUCK INTO A
CUBBYHOLE.....**



L. FISH FURNITURE COMPANY, established 103 years ago, has a chain of a dozen stores. They serve all of Chicago and the surrounding communities.

"We don't purchase trucks any more without power steering . . . and for good reason! The entrance openings to our terminal garage are separated by five-foot-wide brick piers. When we line up our trucks against the dock for loading, we have to back up every third truck in *behind* a pier! These vehicles measure 26½ feet overall front-bumper-to-tailgate. After easing these trucks into the truck well, there's only four inches clearance between each one.

"Not only has power steering cut out most of our fender work and door repairs in tight turning situations like this one, but it's given us what we need most—agility. We don't have the weight that most truckers do—but *we have length*—with the longest standard chassis Chevy supplies. With a long wheelbase and long overall length we need power steering to solve the problem of navigating narrow Chicagoland streets, short-radius corners and U-turns. Our drivers say their power steering-equipped trucks handle like a passenger car. They ought to know because they push them around.

"Eighteen of our units are Chevies with power steering. These trucks have a GVW of 15,000 pounds with a 6,000 pound payload. Power steering has helped increase morale up and down the line—just because it makes handling trucks so much easier and more efficient. As far as we're concerned, it's **STANDARD** on all our specifications!"



REPORTS: *John E. Eckersley, Property Manager, L. Fish Furniture Company, Chicago, Illinois*

Rotary Valve Power Steering reduces steering effort by as much as 70%, requires a turning action of no more than 8 to 11 pounds in the toughest driving situations. Peak efficiency, safer operating, reduction of vehicle damage, all turn up increased profit potential for fleetmen. Power steering can do a job for you . . . the answers are waiting at your Chevy Truck Dealer. Rotary Valve Power Steering is a product of Saginaw Steering Gear Division, General Motors Corporation, Saginaw, Michigan.

1961 CHEVROLET STURDI-BILT TRUCKS



CHEVROLET

WITH  **Saginaw POWER STEERING**

SAGINAW STEERING GEAR DIVISION • GENERAL MOTORS CORPORATION • SAGINAW, MICHIGAN

More details? Circle 210 on reply card inside back cover

Check your Efficiency Factor!

Check your tool kit for these time-saving specials by Herbrand. If you don't have them all, you aren't saving all the time possible! Here are tools specially designed for mechanics interested in saving time by having the right tool for each job.

Don't waste time with tools not designed for the purpose. Use this check list to raise your efficiency factor!

HAVE	OIL FILTER TOOL NO. 196 \$1.98
DO NOT HAVE	Use with 3/4" attachments to remove and replace oil filters on all American cars. Compact cam-acting design handles either vertical or horizontal mounted filters.
HAVE	"SNAP-GAP POINT SETTING TOOL NO. 2110 \$4.95
DO NOT HAVE	Set points simply by taking off cap and rotor. Slip sleeve over cam and gauge. No worry about high point on cam!
HAVE	MASTER BRAKE BLEEDER WRENCH NO. 270 \$1.75
DO NOT HAVE	UNIVERSAL BENDIX BRAKE ADJUSTING TOOL NO. 300 \$1.79
	Just two of the 15 special brake tools now available on their own display board for quick accessibility. Each designed to get in the tight places and save your time.

HERBRAND — Headquarters for Job-Crafted Tools. See Your Jobber.

Herbrand Tools

HERBRAND DIVISION • THE BINGHAM-HERBRAND CORPORATION

FREMONT, OHIO

More details? Circle 266 on reply card

TRUCK FLEETS

Continued from page 176

a limp, may wear a built-up left shoe.

He is known as a good mechanic, may specialize in automatic transmission repair.

He could be armed. FBI considers him dangerous. Give any information to your local FBI office.

Movers protest ICC ruling

A restricted definition of household goods issued by ICC last month brought screams of anguish from movers.

The new "interpretations" will sharply restrict the operations of household goods movers, the industry cried. A protest meeting was quickly called.

Under the new ruling, "household goods" can only mean property transported "as an incident of a move by a householder from one dwelling to another." It cannot mean property moving from a factory to a store, unless it is goods ordered by a householder for use in a dwelling as part of a move from one dwelling to another.

Also, household goods as part of a business can only be considered as such when a business or portion is being moved from one location to another. It cannot include transportation as part of a sale, lease or rental.

Two clearing houses close

Transport Clearings of New England and Transport Clearings of Metropolitan New York ceased operations this summer. The two motor carrier freight bill clearing houses annually handled more than \$200-million in bills.

The houses closed when the supporting banks stepped in to recover loans after both houses' officials had voted to stop clearings for an "appraisal."

END

Please Resume Reading Page 17

MODERNIZE and save BIG MONEY with mechanex WHEEL OIL SEALS



...SURE, ECONOMICAL Bearing Protection

Slash operating costs . . . protect and extend the life of truck and trailer wheel bearings. Eliminate grease repacks and costly downtime. Get *original* and time-proven Mechanex Wheel Oil Seals for your equipment NOW.

Recognized as superior by both fleets and manufacturers, Mechanex Seals will save you an average of \$100.00 PER TRAILER PER YEAR!

and... VALVE STEM LOCKS

You get perpetual tire insurance for only pennies with Mechanex Valve Stem Locks.

Absolutely stops valve stem pull-in on "run-flats." Quickly installed by hand . . . Rust-free . . . universal application.



Both of these fine Mechanex products are available on all new equipment—factory branches and leading parts suppliers.



THE **mechanex** CORPORATION

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TWO SUPERIOR MECHANEX PRODUCTS
More details? Circle 267 on reply card

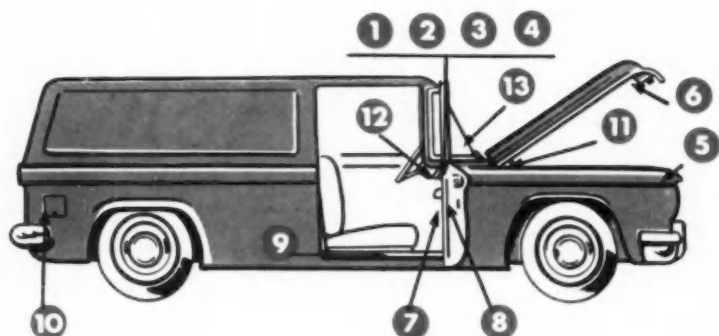
COMMERCIAL CAR JOURNAL, August, 1961



LUBE LOGIC

MONEY-SAVING IDEAS FOR AMERICA'S FLEETS

It pays to chase down SQUEAKS



Squeaks and rattles in fleet-car or truck bodies are not only annoying, they're points of potentially rapid wear. A squirt-can full of 10W motor oil, a stick of dry lubricant, a tube of graphite and some Marfak are all the equipment you need to keep a fleet-vehicle as quiet as Sunday. In the chart below, MO stands for Motor Oil, FG for Flake Graphite, DE for dry stick lubricant, and MG for Texaco Markak Multi Purpose 2.

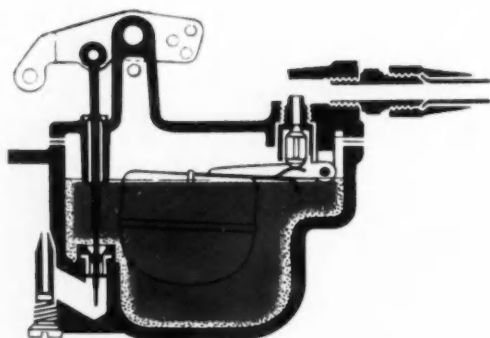
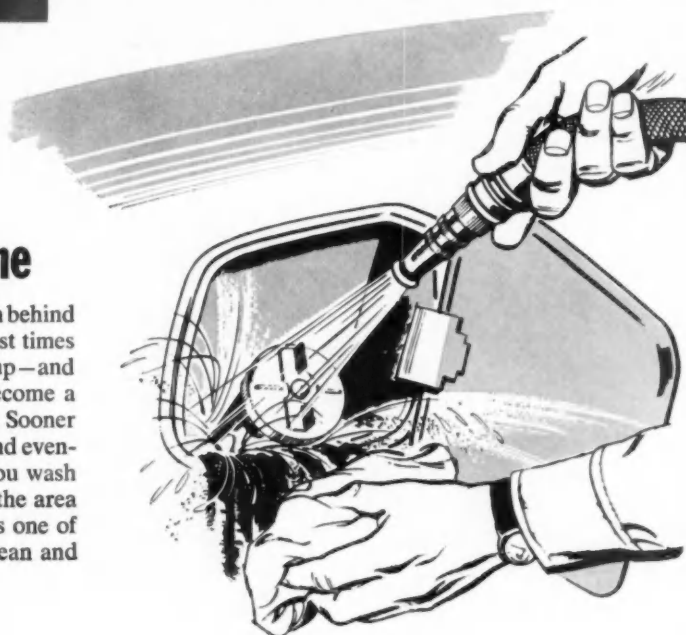
1. Rotary type door latch: MO Rotary latch striker: DE		8. Door hinge: MO	
2. Lift bolt door latch and striker: MO		9. Front seat regulator track: MG	
3. Push-button type door lock assembly (not lock tumblers): MO		10. Gas tank filler door hinge: MO	
4. Door lock tumblers: FG		11. Hood hinges: MO	
5. Lower hood latch plate: DE Locking plate latch pivot: MO		12. Speedometer cable: MG Speedometer head: MO	
6. Upper hood latch dowel: DE		13. Wipers—Link type: MO; Cable type linkage: MG; Wiper arm shaft: MO	
7. Door check link: MO		14. Side fastening hood latch assembly: MO (not illustrated)	

LUBE LOGIC

New tips for

Don't let filler-cap dirt deposits foul up your fuel line

Gasoline filler caps on practically all fleet cars are hidden behind little doors in the fender or behind the license plate. Most times these little doors stay shut except when you're gassing up—and that's the problem. That little enclosed cranny can become a catch-all for all kinds of road dirt, sand, mud and rust. Sooner or later some of that dirt is bound to get into the tank, and eventually it can plug up the fuel line. Moral: next time you wash your fleet cars, open the gas filler doors and blow out the area with an air hose, and once it's clean, *keep* it clean. It's one of the easiest ways we know of to help keep fuel lines clean and trouble-free.



Fuel line deposits may be due to oxidized carburetor parts

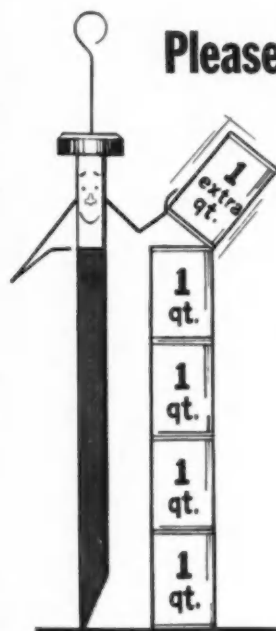
Excessive washing of plated or anodized carburetor parts in caustic parts cleaner may create troublesome whitish fuel-line deposits. Long immersion in parts cleaner may clean the plating or coating right off carburetor parts, and expose the white metal underneath. The exposed metal reacts to moisture and oxidation by releasing particles into the fuel. Two solutions: replace the lost coating by dunking the parts in a bath of dichromate; or, switch to less caustic cleaning solutions for carburetor parts.



Jackrabbit acceleration scuffs new rear axle gears

Engines aren't the only part of a new vehicle that need special care during the break-in period. The rear axle, especially during the first hundred miles, is another critical area. Too-sudden application of power before the gears are properly run-in can cause scuffing of the gears and overheating of the bearings. High bearing temperatures on a brand new axle may show up as a distinctive odor produced by overheating of the additives in the axle lubricant. If rear wheel bearings have this smell, even at early mileage, drain and refill the rear axle.

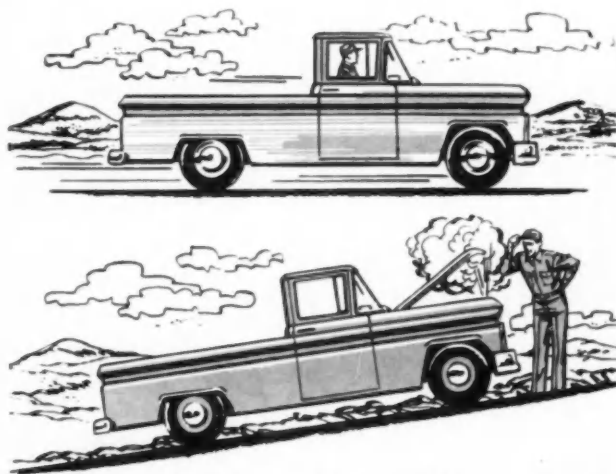
trimming maintenance costs



Please believe the dipstick

Every now and then you may find a fleet-car or truck that shows "full" on the crankcase or automatic transmission dipstick before you've put in the amount of oil specified in the manual. If you do service such a vehicle, please believe the dipstick. It's too simple to be wrong; when the dipstick says "full," the crankcase is *full*.^{*} Overfilling an automatic transmission can eventually lead to sprung seals; an engine that's too-full of oil will whip up a lot of foam and, as a result, get less lubrication than it would using less oil.

^{*}Unless you've just installed a new oil filter. In this case the dipstick reading won't be accurate until after the engine has run long enough to fill up the new dry filter.



Pressurized cooling system needs pressure cap for the heavy going

In spite of the fact that a pressurized cooling system will sometimes work all right even though a non-pressure cap has accidentally been installed, we want to point out that this practice is "all right" only to a certain point. Pressurization gives maximum cooling capacity to water by raising its boiling point. If a fleet-car operates satisfactorily with a non-pressure cap, it simply means the engine didn't need the full cooling capacity of the radiator in those particular

Oil colors: red means danger

A while ago we mentioned in one of these tips that a detergent oil darkens because it's holding onto the dirt, ready to carry it out of the engine when you drain the oil. Then somebody asked, "Why does the oil in my truck turn grey?" Here's a little rundown on the characteristic colors of *used* crankcase oil, and what the colors indicate.



Red oil may mean a leaky fuel pump diaphragm, which lets quantities of dyed gasoline into the oil. This gasoline thins out the lube oil, lowers its lubricating effectiveness. Red color may also result from overchoking, frequent cold starts.



White or cream-colored oil results from harmless white lead-ash that remains after a high-grade gasoline is burned in an engine that's in good condition.



Temporary milky color in cold engine oil results from air being churned into the oil, and usually disappears as the oil warms up.



Foaming and whitening of oil may indicate an air leak in the oil-pump intake.



Black oil in a clean, new engine, almost always results from stop-and-go driving. The color is produced by black carbon fuel soot from inefficiently-burned gasoline. All engines in poor condition will blacken the oil very quickly.




Grey oil is a combination that occurs in comparatively new engines. It's a mixture of white lead ash and black fuel soot.

conditions. But if the same car had been pulling up steep grades, slogging through sand or mud, or if the radiator had been dirty, it might have overheated. A fully pressurized cooling system, like life-insurance, is designed to anticipate and protect against the really heavy going. If your fleet cars have pressure cooling systems, make sure the cap fits the pressure, and you're set for all kinds of driving.

LUBE LOGIC

Valve burning: eight reasons why it happens, and a solution for each cause

This is a follow-up to the chart on valve breakage that appeared in a previous Lube Logic. As we pointed out in the first chart, valve failures usually have several inter-related causes, rather than a single one. This listing simply gives the "most-likely" causes for most cases of valve burning, and a possible remedy for each one.



PROBABLE CAUSE	POSSIBLE REMEDY	PROBABLE CAUSE	POSSIBLE REMEDY
1. Sticking valves.	Clean valve stem, guide; replace valve or guide if worn. Use proper fuel and oil; change oil frequently enough to prevent deposits.	5. Forging of valve seating surface from: A. Lacquer deposits	Clean valves, use proper oil, change oil frequently enough to prevent deposits.
2. Valve head or stem warped due to: A. Overheating	Service cooling & lubricating systems; eliminate overheating causes.	B. Insufficient stem-to-guide clearance	Clean, replace guide or valve as necessary.
B. Valve-stem deposits	Clean valves, use proper oil & fuel, change oil frequently enough to prevent deposits.	C. Unsuitable valve-stem material	Use different valves.
C. Worn valve guides	Replace	6. Valves incorrectly serviced	Valves ground to knife edge or off-center must not be used.
3. Insufficient tappet clearance	Readjust. Full-throttle heavy-duty service may require up to 50% more clearance.	7. Excessive valve temperatures	See this listing in "Valve Breakage" chart.
4. Weak valve springs cause valve flutter, poor seating; blow-by burns valves	Service valves, replace springs.	8. Faulty maintenance	Valves should be checked at regular intervals, serviced, adjusted as needed.

This chart on Valve Burning is the second of a three-part table on causes of valve failure. The next Lube Logic will contain the final portion, a chart listing the probable causes and possible cures for valve *deposits*. If you missed

the previous article on Valve Breakage, you can get a reprint by writing to:

Texaco Inc., 135 East 42nd Street, New York 17, N. Y., Fleet Sales Division, Department CCJ-130.



TEXACO AUTOMOTIVE ENGINEERS

Every month we'll bring you news about the latest "doings" in servicing and lubricating your trucks. We'll also bring you "sleepers"—little angles, easy to overlook, where big savings in money and time can be made. But month in, month out, your local TAE is the best source of money-saving lubrication ideas. Don't forget that "lubrication is a major factor in cost control." Texaco Inc., Fleet Sales Division, 135 East 42nd St., New York 17, N. Y.

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TEXACO

Throughout the United States

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LAWS & REGS

Continued from page 29

antitrust exemption in the ICC Act.

A Federal grand jury, after almost 18 months of study, returned the indictments for restraint of trade and illegal rate-setting activities.

Named in the indictments were North American Van Lines, Aero Mayflower Transit, Allied Van Lines, and United Van Lines, as well as the Household Goods Carriers' Bureau.

Transportation experts believe the case is designed to force movers to publish their rates as licensed by the ICC. In addition, they believe the antitrust officials are trying to prove that the companies involved have been permitted by the ICC to "take over" the bulk of the business in violation of the laws against monopoly.

Lending car makers under fire

General Motors Acceptance Corp. and Ford Motors Credit Co. have both been attacked bitterly by independent loan companies.

The sides: GMAC and Ford say the two companies hold costs of automobiles down. The independents say consumers would make huge savings if the finance arms of the auto makers were divorced from the parent companies completely.

Issue at hand: A bill by Rep Emanuel Celler, chairman of the House Antitrust Subcommittee, which would prohibit auto factories from owning finance companies.

IRS gives use tax payment plan

Internal Revenue Service has outlined a new plan to fit the provisions of the Federal-Aid Highway Act of 1961. It permits a new schedule of four equal installment payments for highway use taxes. Contact your local IRS office for the new schedule.

END

Please Resume Reading Page 81

BE READY THIS WINTER!



Keep profits on the go — even in snow with . . . CAMPBELL CHAINS

Safety means profits. And National Safety Council studies prove that tire chains mean more safety in winter driving. That's why you keep *your* fleet rolling safely and profitably when you use Campbell Tire Chains. All tire chain bags are coded by bands and color for instant identification. Further, you are assured the best delivery and service from Campbell's nationwide network of factories and warehouses.



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CAMPBELL CHAIN COMPANY, York, Pa.

Please send me the name of my local Campbell Chain jobber.

Name

Address

City Zone State

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Lyman Wilbur, Fleet Manager of My Bread Baking Co.,
New Bedford, Mass., reports:

**"we cut the cost of ring jobs from
\$1500 to \$250 a year...and got 50%
longer service life per truck"**



My Bread President Duchane,
Tom Mullins of W. W. Leach
Co., fleet jobber, and Lyman
Wilbur discuss award-winning
maintenance program records.

"The reason?

**Preventive maintenance and excellent RAMCO rings
... easily superior to the original equipment"**

Lyman Wilbur is a fleet expert—a man who knows. His fleet of 185 trucks—award winners 4 years in a row—cover nearly 3 million miles per year, yet his maintenance cost is only 6.5¢ per mile—only 2.05¢ for gas, oil, grease and time.

"We install RAMCO rings instead of engine blocks after 80,000 miles." Mr. Wilbur says, "Our oil consumption has improved to the point where we get 3370 miles per added quart."

"On our older trucks, dating back to 1947, RAMCO rings help give us an additional 40,000 miles before we replace the block."

"RAMCO rings and preventive maintenance are a profitable team for us."

Your RAMCO fleet jobber can tell how RAMCO rings can help you cut cost, increase profit. Call him soon.



BREAK-IN TIPS. In 1958 Mr. Wilbur started replacing rings in their P-350's, purchased in 1952. Some of these engines have excellent compression after 160,000 miles.



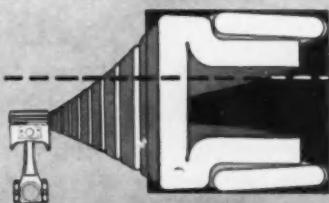
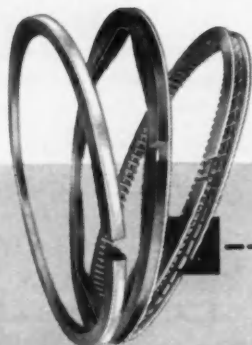
PISTON RE-SIZING. Most maintenance is done at My Bread garage. Jobber Mullins renews wrist pins, expands pistons, aligns rods, cuts and shims top grooves.



WHY "BACKBONE" IS IMPORTANT. Shopman Raymond Roy, President Duchane and Tom Mullins discuss the Ramco C-9 "backbone"; how it provides conformability, stops oil pumping, clogging.



FREE "BACKBONE FACTS" FOLDER tells why RAMCO rings are "easily superior to original equipment." See your Jobber or write today.



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NEW **Snap-on** MASTER ANALYZER

MT-4050 Master Analyzer

MT-615A Anal-O-Scope (shown in console). Mechanics tell us it has the easiest-to-understand pattern of them all. It spots ignition system troubles with pin-point accuracy.

MT-415B Combination Tach-Dwell Meter (shown in console). Tach scale checks engine rpm for servicing automatic transmissions, balancing cylinders, adjusting carburetor idling jets. Dwell scale checks dwell or cam angle and resistance of breaker points; set breaker points. Use on 6, 12, or 24-volt systems.

MT-430 Ignition Analyzer (shown in console). Tests primary and secondary coil efficiency, coil heat, stalled motor coil current, capacitor efficiency, secondary coil resistance, capacitor leakage, coil polarity, ignition efficiency, misfiring, motor idle current.

MT-401A Generator-Regulator Meter (shown in console). Tests generator, checks regulated amperes, cutout and regulated voltage. Also used to test battery and locate electrical leaks. 15-volt range for cars and trucks; 60-volt range for ignition systems over 12 volts.

MT-425 Vacuum and Fuel Pump Gauge (shown in console). Detects a wide line of engine troubles from leaky manifolds to weak valve springs. Top dial registers vacuum up to 26 inches of mercury. Bottom dial shows fuel pressure up to 10 lb per sq. in.

KRA-315 Roll Cab with 19"x26½" top, 34¾" high. Drawer is 18¼"x21½"x4½" deep. Upper shelf has 11" depth, lower compartment is 13¼" high. Two metal doors with lock which also locks drawer.



MT-650 Console. Housing only, without instruments or roll cab. Available for those who already own the instruments and wish to consolidate them.

Optionally Available

MT-405A Exhaust Gas Analyzer. Checks the air-fuel ratio — shows you if engine is operating efficiently; if carburetor is set properly. Flexible sampling tube and tail pipe adaptor fits all cars. Carburetor idling adjustments can be made without dynamometer.

MT-412 Tachometer. Designed for mechanic who wants tachometer only. Two scales — low scale calibrated from 0 to 1,000 rpms; high scale from 0 to 5,000 rpms. Use on 6, 12, or 24-volt systems.



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You can count on this test equipment for accuracy and dependability — it's SNAP-ON quality throughout. Each unit carries a full year's warranty against defect. Here is equipment designed to spot hard-to-find troubles and speed repair of today's complex engines — equipment every fleet shop needs to be up-to-date in all respects. Your SNAP-ON man will be happy to prove it with a demonstration.

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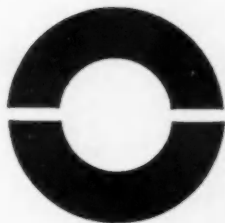


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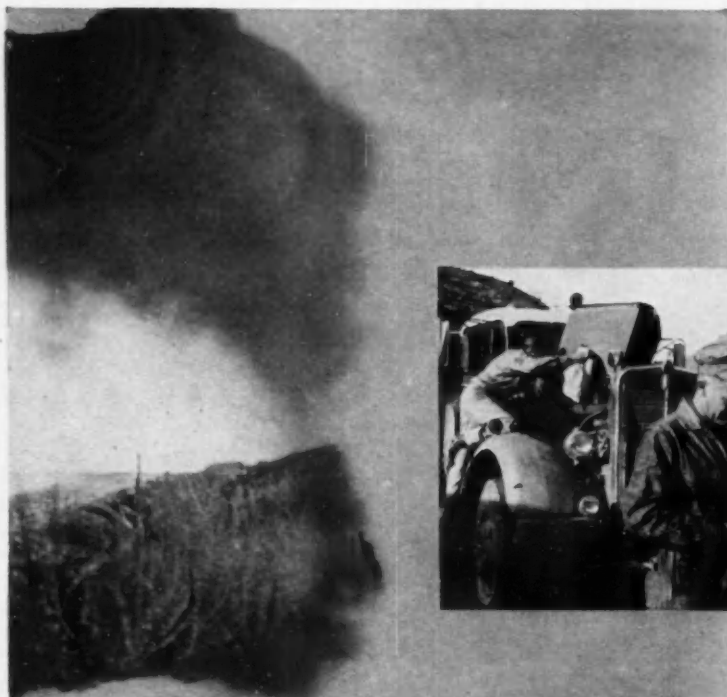
“Our Trucks Every Day...”



Ratios of the Spicer 8045 4-speed main transmissions in these Kenworth trucks are so spaced that they are functionally split or compounded with the ratios of the Spicer 8341 4-speed auxiliary transmissions. This provides a gear ratio for every operating need—speed, torque, power and economy—in the rough, rugged ore hauling business in which McFarland & Hullinger are engaged. Benefits of this wide, flexible range of gear ratios are (1) bigger payloads can be hauled (2) more trips can be made (3) maintenance and operating cost is lower.

Arthur Corradini, superintendent of McFarland & Hullinger, uranium ore haulers, tells how Spicer main and auxiliary transmissions save time and money in hauls over rugged Western terrain.





Arthur Corradini, right, inspects Spicer 1700 Series universal joint after mechanic Lawrence Schaublino has pronounced it ready for many more thousands of miles.

Take A 'Mountain Beating' That's Why We *Specify* Spicer"

"Our rigs negotiate some of the steepest mountain roads in the country," says Mr. Corradini. "About 50% of our routes are over off-highway dirt and gravel roads. Temperatures range from 10° below zero to 105° above—at times, our trucks fight 8-foot-high snow drifts. Even when the roads are plowed we have to 'grind' over 18 inches of packed snow!

"Our drivers drive these trucks over rough roads and up steep inclines seven days a week, two shifts a day. Each truck logs about 10,000 miles a month. Our fleet consists of 46 Kenworth trucks—and they're *all* equipped

with Spicer 4-speed main and Spicer 4-speed auxiliary transmissions. Clutches, by the way, are Spicer 14-inch 2-plate models. Universal joints are Spicer 1700 Series at the forward end and 1600 Series at the rear end.

"Why do we specify Spicer components for both original equipment and replacement? That's easy to explain. Their *durability* has enabled us to hold costly service trips down, and we can keep a *small* parts inventory because Spicer replacement parts are *readily available* everywhere we operate—Colorado, Utah, Arizona, Nevada, California and Wyoming."

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To put it another way, owner John Ruan can haul 8,000 gal of gasoline in his aluminum unit, compared to 7,500 gal if it were made of steel. Or

he can haul 127.6 bbl of cement versus 119.6 bbl.

The vehicle in the picture is one of a fleet of Hopper Pressure Trailers Mr. Ruan ordered from Fruehauf. It can handle a wide range of particle-size products—cement, salt, granular phosphates, ammonium nitrate prills, granular fertilizer components and grain. It can also be adapted to haul



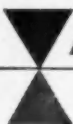
an extra 3,000-lb payload

liquid loads. Because it's made of aluminum, the payload-to-vehicle weight ratio is high. Aluminum also contributes corrosion resistance, nonsparking characteristics and simple maintenance.

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Highway Taxes

Continued from Page 91

tions and vehicle use. The picture as they see it is presented in Chart No. 3.

But federal money is *only for building* roads and must be matched by the states—50/50 for the ABC (or Primary and Secondary Highway) program, 90 per cent federal and 10 per cent state for the Interstate System. In addition, the states must provide the money for the maintenance and administration of their highway systems.

This increasing cost to the states for construction, maintenance and administration through 1972 is estimated in Chart No. 4.

Where will money come from?

It may be that increased revenue from more vehicles and more highway use will meet state needs just as the BPR expects it will meet federal needs. But fleetmen have to watch carefully, avoid being picked as the group that can most easily afford to pay the increased costs should the need arise.

Progress in building the new highways in terms of miles is shown in Chart No. 5. With only 5308 miles of the Interstate System adequately completed for 1972's traffic volume as of the end of March this year, there's still a long way to go to reach the 41,000-mile goal.

As reflected here in the financial picture for the first five years of the highway program, high-

federal highway costs should be paid by such beneficiaries.

In fact, highway cost responsibilities from the "210 Report," as listed in Chart No. 2, cover only 92 per cent of federal highway costs, would have to have another 8 per cent added to be on the same basis as present federal highway tax costs per vehicle as shown in the chart.

However, the case for taxing users appears strong. There is no doubt that better highways do save time and operating costs for the vehicles using them. Savings in human lives and accident costs can also be shown. A host of research reports, beginning with the Pennsylvania Turnpike studies some 10 years ago, prove the point.

Unfortunately, recent reports project these findings to include all vehicles that will be on the road between now and 10 or 20 years from now. They then show the savings exceed the cost of building the new highways. From such projected summaries, legislators all too easily draw the conclusion that users—especially fleets—can afford tax increases since returns to the user will exceed the tax bite.

For example, one recent report estimates that by 1980 the Interstate Highway System will save users \$42.1-billion in operating costs, and \$56.4-billion in time costs for a total of \$98.5-billion. In addition, it estimates that the System will result in 75,800 fewer traffic deaths by 1980.

Since the Interstate System is estimated to cost \$41-billion, the net return to users comes to \$57.5-billion. The oversimplified result of such deduction is to say: For every \$1 spent for the Interstate Highway System, each user will get back \$1.40.

"Pay before you go"

But there are several easily-overlooked pitfalls in such figures. First is that the 40¢ return is spread over 20 years, making the real return about 2¢ a year. Second is that the return actually does not come in until the later part of the period. This is the reason that the present highway program has been referred to as "pay before you go" by American Trucking Assns.

But the most important problem facing each fleet operator is whether or not he actually gets his share of the estimated savings from better highways.

Certainly if his financial records reflect more dollars saved than are spent for highway use, he comes out ahead. Of course, in every operation a point is reached sooner or later where the return does not exceed the cost.

Fleetmen are going to have to keep an eye on operating costs and on time costs so they'll realize the savings possible from better highways. It's certain you are going to continue to pay heavily for the roads you use. You better fight for the profit from them.

END

Please Resume Reading Page 92

(billions)	1957	1958	1959	1960 ¹	1961 ²
INCOME					
Highway user taxes	\$ 6.1	\$ 6.2	\$ 6.7	\$ 7.6	\$ 8.0
Other revenue ³	2.2	2.4	2.6	2.7	2.8
Loans	1.2	1.3	1.1	1.2	1.1
Total	\$ 9.5	\$ 9.9	\$10.4	\$11.5	\$11.9
OUTGO					
Construction	\$ 5.7	\$ 6.4	\$ 6.8	\$ 6.3	\$ 7.0
Maintenance	2.2	2.3	2.5	2.6	2.7
Administration	1.5	1.6	1.7	1.8	1.9
Total	\$ 9.4	\$10.3	\$11.0	\$10.7	\$11.6

¹ Preliminary. ² Forecast. ³ Includes toll revenues and parking fees paid by highway users.

way users are *paying the major part* of real highway costs.

The new federal taxes place 100 per cent of the federal share of highway costs on the highway user. This placed the problem, of how much the non-user beneficiary should pay, directly up to the states.

Highway users do not think Congress was being fair in doing this. Their testimony in Committee hearings is in almost complete agreement on this point. Further, the Highway Cost Study itself contains a full discussion of non-user highway benefits, suggests that at least 8 per cent of

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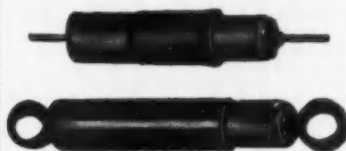
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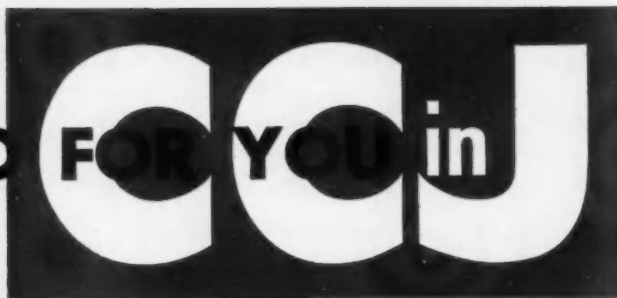
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WHAT'S AHEAD

FOR YOU in



NEXT MONTH

NEW CONCEPTS IN FLEET EFFICIENCY . . . that's what's featured in your regular September issue of **COMMERCIAL CAR JOURNAL**. It's what the Mobile Editorial Team found when it visited Akers Motor Lines . . . and brings right to your desk in a dramatically illustrated, easy to read multi-page report.

You'll find not only the mechanical specs on Akers' **ROAD TRACTORS**, but why they get that way. You'll see how rigs are routed through the fleet's Charlotte base for **MAXIMUM AVAILABILITY**. You'll get ideas for **FASTER SERVICING** from a trip through the fleet's shop. You can check off what Akers does to get **MORE SAFETY** each year. And, you'll find out how to use **TRUCK STOPS** profitably.

LATER IN SEPTEMBER

CCJ'S 50TH ANNIVERSARY SPECIAL will be in your hands later in September. It's a bonus issue, an extra one marking **COMMERCIAL CAR JOURNAL'S** fifty years of service to commercial fleets. **PROGRESS FROM EXPERIENCE** is its theme. It takes a look at what the nation's truck, bus and passenger car fleets have done . . . the importance they have today . . . and where they are going tomorrow.

It features several spectacular **FOLIOS FOR PROGRESS**, charting the industry from its beginning and projecting its future. It takes a look at what has happened and what can be expected in **VEHICLE DEVELOPMENT**. It shows why **FLEETS** have been and can be expected to continue being the most important commercial vehicle users. It emphasizes the interdependence of today's business and commercial vehicles . . . concludes with a long look into the **GOLDEN YEARS** ahead.

OCTOBER

It's new model time. Even as this is being written, CCJ's two Detroit editors, Jos Geschelin and Ed Janicki, have been at work for over a month. Reports are coming in steadily on **WHAT'S NEW** about the 1962 **MODELS**. While not neglecting appearance, they're more concerned with the significant mechanical changes . . . for CCJ's exclusive October round-up. (See page 17, this issue, for an advance look at '62 features.)



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IF YOU HAVE a special problem in your operation, write and tell us about it. CCJ's editors work for you . . . we'll try to help you find an answer. You can help us, also. If you've solved some unusual problem, let us in on it. It may help other CCJ readers. Of course, if you've any questions or criticisms on what you see in this issue, send us those too! Your comments tell us what you want to read in CCJ.

Turn this page to see



in publications for fleets

REPORTS on the other side could make it easy for you to do a better job. From manufacturers, associations and government agencies, they cover operation, regulation, maintenance and equipment selection. Many are free.



For quick information about items described in this issue, circle the appropriate numbers, fill out the return address blanks below and mail

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Frozen food hauling and handling practices as proposed under the voluntary standards recommended by the Frozen Food All Industry Coordinating Committee (FFAICC) are now available from CCJ. Details on both regulatory and voluntary standards were given by this magazine earlier this year (March issue, page 97). To get your free copy of the FFAICC voluntary standards, circle 313 on the reply card.

Parts replacement for Caterpillar equipment is now possible through the company's Parts Assembly Exchange Program. How you can obtain rebuilt parts for your Cat units at only the cost of repair is explained in a new booklet (Form D115) offered by Caterpillar.

For free booklet, circle 314

Electrical and fuel systems parts listings for all passenger cars and light trucks are included in a new 1961 catalog from Automotive Electric Assn. Illustrations aid in parts identification.

To get free catalog, circle 315

Trailer air suspension from Neway Equipment Co., Muskegon, Mich., is described in Bulletin No. A-10 offered by the maker. It also contains installation and service information plus parts list for the new suspension.

For your free bulletin, circle 316

Directory of diesel service specialists called "This is A.D.S." is a new manual offered by the Assn. of Diesel Specialists, Kansas City, Mo. It contains information about the Association as well as listings of manufacturer and service members in the U. S. and other countries.

For free single copy, circle 317

Training film alerts drivers to on-the-scene accident investigation procedures. Called "Witness to an Accident," the 11-min film also provides tips for the fleet safety man who must interpret physical evidence at an accident in order to submit a report. The film was produced jointly by Indiana State Police and Indiana University. Opening with a 3-car collision, it shows care of the injured followed by step-by-step investigation details and eye-witness interviews. Film is offered for purchase or rent by the University's Audio Visual Center.

Circle 318 on reply card for details on obtaining the film

How to service all types of brake systems on light trucks and passenger cars is illustrated and explained in an 80-page Brake Service Guide now available from Raybestos Division, Bridgeport, Conn.

For details on obtaining the brake manual for your fleet shop, circle 319

How seat belts save lives in all types of vehicle accidents is described in "The Big Plus-Seat Belts" published by Ford Motor Co.'s Traffic Safety and Highway Improvement Dept. You'll want to know more about using seat belts in your fleet safety program.

For a free copy of Ford's booklet, circle 320 on card

Cutting truck fleet tire costs through increased tire mileage is included in a new Truck Tire Service Manual offered by Cooper Tire & Rubber Co. The 48-page reference also gives tire, tube, valve, rim and flap specifications and correct truck weighing procedures.

To get your free manual, just circle 321 on reply card

"Management Guide for Maintenance Supervisors" is the title of a new manual offered by John F. Rider Publisher, New York City. The guide is said to provide plans for efficient maintenance control systems in all phases of fleet operation. Cost is \$1.25 a copy.

For more information, circle 322 on reply card

A complete truck fleet safety program is offered for every size and type of operation by Fleet Safety Service, American Trucking Assn. Developed by trucking industry safety experts, the service is said to provide all standards and materials needed to conduct your fleet safety program.

For details on ATA's new service, circle 323 on reply card

"The Challenge of the Coming Ten Years in Trucking" is the title of a report offered in booklet form by Cummins Engine Co., Columbus, Ind. Facts, figures and predictions it contains may help you anticipate the extent and direction of your fleet's growth in the immediate future.

For your free copy, circle 324 on reply card

Fuel pump construction, operation, installation and causes of pump failure are explained in "The Inside Story of Fuel Pumps." The new booklet is offered by American Motor Products, Fond du Lac, Wis.

For your free copy of the fuel pump reference book, circle 325

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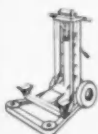
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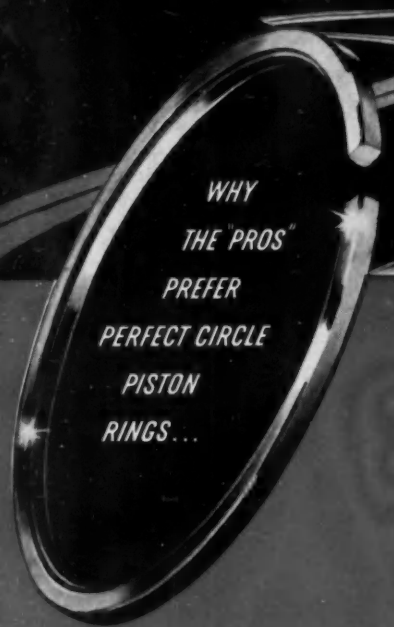


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